



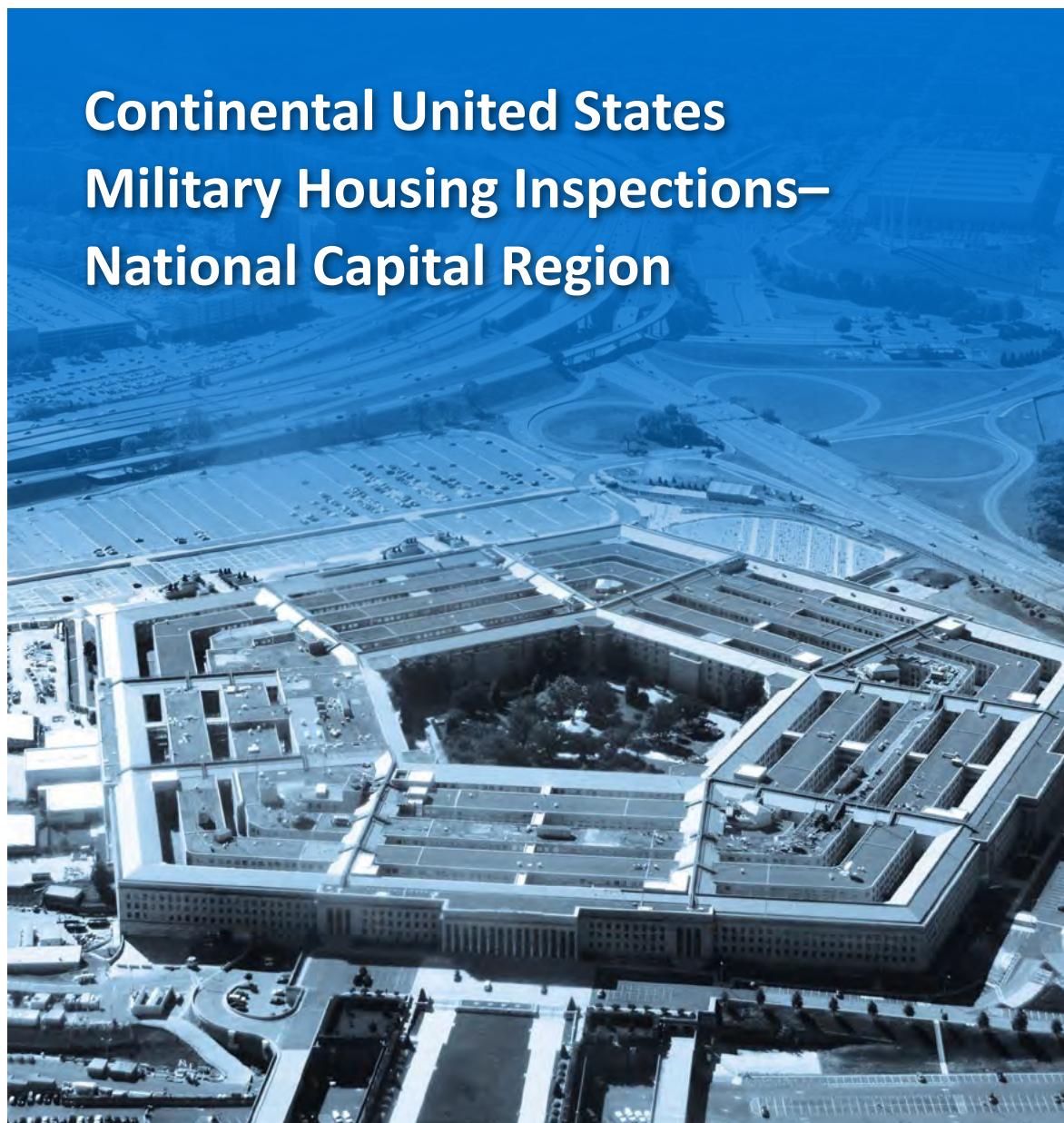
# INSPECTOR GENERAL

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*U.S. Department of Defense*

AUGUST 13, 2015

## Continental United States Military Housing Inspections— National Capital Region



INTEGRITY ★ EFFICIENCY ★ ACCOUNTABILITY ★ EXCELLENCE

INTEGRITY ★ EFFICIENCY ★ ACCOUNTABILITY ★ EXCELLENCE

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# Results in Brief

## *Continental United States Military Housing Inspection- National Capital Region*

August 13, 2015

### Objective

Our objective was to inspect DoD military housing in United States Army Garrison (USAG) Fort Belvoir and Joint Base Anacostia-Bolling (JBAB) for compliance with Federal, DoD, and local jurisdiction health and safety policies and standards. Those policies and standards included the Unified Facilities Criteria (UFC), National Fire Protection Association (NFPA) codes and standards, the National Electrical Code (NEC), U.S. Environmental Protection Agency (EPA) standards, and international building codes.

### Findings

We found deficiencies at both military installations. For accompanied and unaccompanied housing facilities, the majority of deficiencies identified during the inspections resulted from improper installation, insufficient inspection, or inadequate maintenance. We identified a total of 316 deficiencies that could affect the health, safety, and well-being of warfighters and their families: 168 electrical system, 131 fire protection system, and 17 environmental health and safety.

USAG Fort Belvoir's and JBAB's installation personnel did not ensure that:

- housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards; and

### **Findings (cont'd)**

- housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards.

USAG Fort Belvoir did not adequately maintain exhaust ventilation systems in the barracks. In addition, older accompanied housing communities had lead based paint that was flaking, peeling, or chalking.

JBAB did not have an asbestos management program, plan, or an appointed asbestos program manager.

### Recommendations

We recommend that the Commander, USAG Fort Belvoir:

- Conduct an effective root cause analysis and implement a corrective action plan for all 132 deficiencies identified in this report;
- Create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical, fire protection, and environmental health and safety codes and standards;
- Work with the private housing partner to ensure inspection and maintenance plan is achieved;
- Improve heating, ventilation, and air conditioning (HVAC) maintenance in barracks; and
- Work with the private housing partner to abate all defective lead based paint in accordance with their Operations and Maintenance (O&M) plan.

We recommend that the Commander, JBAB:

- Conduct an effective root cause analysis and implement a corrective action plan for all 184 deficiencies identified in this report;
- Create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical, fire protection, and environmental health and safety codes and standards;



## Results in Brief

# *Continental United States Military Housing Inspection– National Capital Region*

### ***Recommendations (cont'd)***

- Work with the private housing partner to ensure inspection and maintenance plan is achieved; and
- Implement an asbestos management plan and appoint an asbestos program manager in accordance with DoD requirements.

## Management Comments and Our Response

The Commander, Navy Installations Command (CNIC) responding to the official draft report for JBAB, agreed with all the recommendations. Additional comments are required from CNIC, as they only partially addressed the recommendations. The USAG Fort Belvoir Commander responded to the draft report and agreed with two recommendations, partially agreed with two, and disagreed with five. Additional comments are required from USAG Fort Belvoir, as their comments did not meet the intent of the recommendations. Please see the Recommendations Table on the next page.

## ***Recommendations Table***

<b>Management</b>	<b>Recommendations Requiring Comment</b>	<b>No Additional Comments Required</b>
United States Army Garrison Fort Belvoir Commander	A.1, A.2, A.3, B.1, B.2, B.3, C.1 and C.3	C.2
Commander, Navy Installations Command responding for JBAB	D.1, D.2, D.3, E.1, E.2, E.3, and F.1	F.2

Please provide comments to the recommendations by September 14, 2015.



**INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
4800 MARK CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22350-1500**

August 13, 2015

MEMORANDUM FOR SECRETARY OF THE ARMY  
SECRETARY OF THE NAVY  
COMMANDER, UNITED STATES ARMY GARRISON FORT BELVOIR  
NAVY COMMANDER, NAVY INSTALLATIONS COMMAND

**SUBJECT: Continental United States Military Housing Inspections – National Capital Region  
(Report No. DODIG-2015-162)**

We are providing this report to the Command for review and additional comments. The DoD Office of Inspector General inspected DoD military housing facilities in the Continental United States National Capital Region for compliance with Federal, DoD, and local jurisdiction health and safety policies and standards. We conducted inspections on electrical systems, fire protection systems, and for select environmental health and safety requirements, such as those for drinking water, radon, asbestos, and lead based paint.

We conducted this evaluation in accordance with the Council of Inspectors General on Integrity and Efficiency, "Quality Standards for Inspection and Evaluation." Our evaluation identified a total of 316 deficiencies that could affect the health, safety, and well-being of the warfighters and their families. The majority of the deficiencies identified during the inspections resulted from improper installation, insufficient inspection, or inadequate maintenance.

We considered management comments on a draft of this report when preparing the final report. Comments were received from both the Commander, Navy Installations Command (CNIC), responding for Joint Base Anacostia-Bolling, and from the Commander, United States Army Garrison (USAG) Fort Belvoir. Based on management comments to the official draft, the Inspection Process and Criteria section of the report was modified to provide further clarity on the criteria used for the inspections. CNIC responded to the official draft report agreeing with all the recommendations; however, additional comments are required from CNIC, as they did not address the recommendations. The USAG Fort Belvoir Commander agreed with two recommendations, partially agreed with two, and disagreed with five. We request additional comments from the Commander, United States Army Garrison (USAG) Fort Belvoir, on Recommendations A.1, A.2, A.3, B.1, B.2, B.3, C.1, and C.3. We also request additional comments from the Commander, Navy Installations Command (CNIC), responding for Joint Base Anacostia-Bolling, on Recommendations D.1, D.2, D.3, E.1, E.2, E.3, and F.1.

DoD Instruction 7650.03 requires that recommendations be resolved promptly. In addition, final responses should include the expected resolution date for each finding. Please send a PDF file containing your comments to [REDACTED] Copies of your comments must have the actual signature of the authorizing official for your organization. We cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET). Please provide comments to the recommendations by September 14, 2015.

We appreciate the courtesies extended to the staff. Please direct questions to [REDACTED] at [REDACTED] If you desire, we will provide a formal briefing on the results.



Randolph R. Stone  
Deputy Inspector General  
Policy and Oversight

cc:

Under Secretary of Defense for Acquisition, Technology and Logistics  
Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Army Inspector General  
Naval Inspector General  
Auditor General, Department of the Army

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## Acronyms and Abbreviations

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# Introduction

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## Objective

Our objective was to inspect DoD military housing in United States Army Garrison (USAG) Fort Belvoir and Joint Base Anacostia-Bolling (JBAB) for compliance with Federal, DoD, and local jurisdiction health and safety policies and standards. Those policies and standards included the Unified Facilities Criteria (UFC), National Fire Protection Association (NFPA) codes and standards, the National Electrical Code (NEC), U.S. Environmental Protection Agency (EPA) standards, and international building codes.

## Background

The Continental United States (CONUS) Military Housing Inspections – National Capital Region (NCR) is a self-initiated inspection project to ensure life, health, and safety for our warfighters and their families. Previously the DoD Office of Inspector General (OIG) inspected military housing in Asia, specifically in Japan, the Republic of Korea (ROK), and Afghanistan.

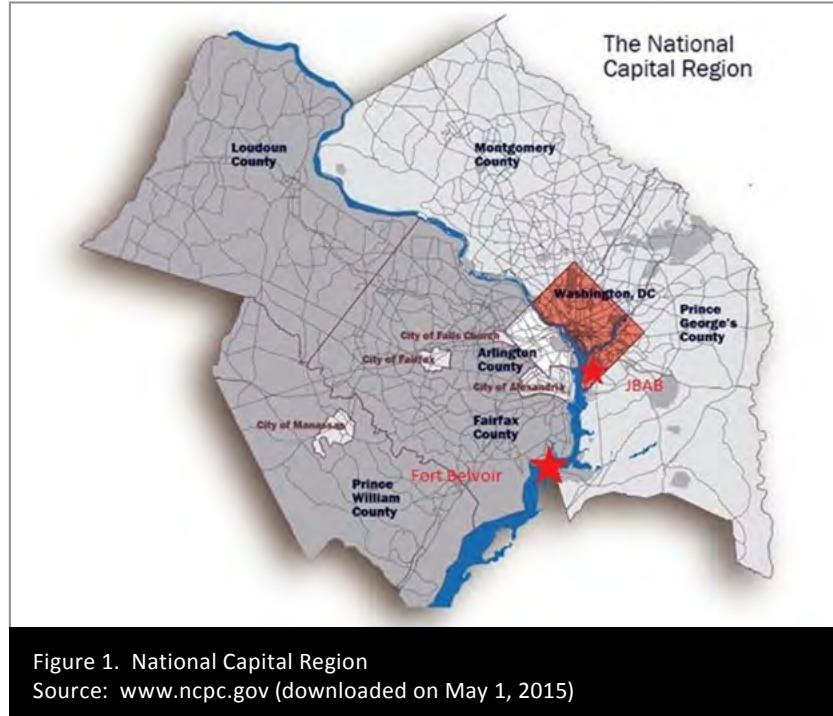
We announced this project on December 15, 2014, and inspected USAG Fort Belvoir and JBAB from January 26 to February 6, 2015. The categories of inspections were electrical, fire protection, and environmental health and safety.

We inspected two types of military housing, accompanied and unaccompanied. Accompanied housing included single family homes and multiplex townhouses. Unaccompanied housing included bachelor officer quarters (BOQs), bachelor enlisted quarters (BEQs), dormitories, and barracks. Unaccompanied housing is Government owned and managed; accompanied housing is privately owned and managed. Fort Belvoir Residential Communities (FBRC), LLC owns and manages USAG Fort Belvoir accompanied housing. Hunt Military Communities and Lincoln Military Housing own and manage JBAB accompanied housing.

## ***National Capital Region***

The NCR was created in accordance with the National Capital Planning Act of 1952, section 8701, title 40, United States Code (40 U.S.C. §8701) (see Figure 1). It defines the NCR as the District of Columbia (D.C.); Montgomery and Prince George's Counties in the State of Maryland; Arlington, Fairfax, Loudon, and Prince William Counties in the Commonwealth of Virginia (Virginia); and all cities existing in Maryland or Virginia within the geographic area bounded by the outer boundaries of the combined area of said counties. USAG Fort Belvoir is located in Fairfax County, Virginia, while JBAB is located in D.C. In addition to USAG Fort Belvoir and

JBAB, other bases in the NCR include Joint Base Andrews, Fort Detrick, Fort Meade, Joint Base Myer-Henderson Hall, Naval District Washington, Naval Support Activity Bethesda-Walter Reed National Military Medical Center, Patuxent Naval Air Station, Naval Support Facility (NFS) Dahlgren, and NFS Indian Head.



## **USAG Fort Belvoir**

USAG Fort Belvoir is located in Northern Virginia's Fairfax County, approximately 20 miles south of Washington. USAG Fort Belvoir is home to the Army Intelligence and Security Command, Army Cyber Command, and more than 145 distinct mission partners. It is home to a variety of logistics, intelligence, and administrative agencies. USAG Fort Belvoir boasts a community hospital which provides services to more than 245,000 military, defense civilians, retirees, and families.

At the time of the inspections, the total USAG Fort Belvoir population of military personnel and their dependents was 2,684. Approximately 2,091 military personnel and their dependents live on USAG Fort Belvoir's 15 accompanied housing communities: Belvoir Village, Cedar Grove Village, Colyer Village, Dogue Creek Village, Fairfax Village, George Washington Village, Gerber Village, Herryford Village, Jadwin Loop, Lewis Village, Park Village, River Village, Rossell Loop Village, Vernondale Village, and Woodlawn Village. Likewise, 593 military personnel lived in the unaccompanied housing McRee and Warrior Transition Unit barracks. USAG Fort Belvoir's combined accompanied housing and unaccompanied housing

was 3,230 units. FBRC owns and manages 2,154 accompanied housing units in the 15 accompanied housing communities while DoD owns and manages 1,076 unaccompanied housing units in the barracks.

### ***Joint Base Anacostia-Bolling***

JBAB was established on Oct. 1, 2010 to meet congressional legislation based on the recommendations of the 2005 Base Realignment and Closure Commission. JBAB consists of the former NSF Anacostia and the former Bolling Air Force Base and has been a DoD asset since 1917. JBAB is a 1,018 acre military installation, located in Southeast D.C., situated between the Potomac and Anacostia rivers and Interstate 295, in the Anacostia and Congress Heights areas. The installation hosts the Air Force Honor Guard among other missions performed by the nearly 50 military and Federal agencies.

At the time of the inspections, the total JBAB population of military personnel and their dependents was 3,623. A total of 2,954 military personnel and their dependents lived on 8 accompanied housing communities owned and managed by Lincoln Military Housing (Bellevue Housing) and Hunt Military Communities. The Hunt Military Communities include Billy Mitchell Estates, Doolittle Park, Duncan Estates, Hooe Terrace, Hickam Village, Rickenbacker Place, and Westover Estates. Lincoln Military Housing only owns and manages Bellevue Housing.

JBAB's combined accompanied housing and unaccompanied housing was 1,865 units. Hunt Military Communities owns and manages 816 accompanied housing units while Lincoln Military Housing owns and manages 187 accompanied housing units for a total of 1,003 accompanied units. DoD owns and manages 862 unaccompanied housing units. In addition, DoD owns and manages four barracks buildings: Air Force Honor Guard Dormitories, Blanchard Barracks, Enterprise Hall, and Furnari Hall. These buildings house 669 unaccompanied military personnel.

### ***Inspection Process and Criteria***

We inspected housing facilities in USAG Fort Belvoir and JBAB for compliance with environmental, health and safety codes, policies, and standards. We used recent versions of the NFPA codes as the criteria for the fire protection and electrical system inspections. In addition, we inspected to EPA standards governing safe drinking water and toxic substances, radon, asbestos and lead based paint, since those are imposed throughout the United States. The criteria used during this inspection provided a general baseline for identification of deficiencies that impact life, health, and safety of the warfighter and their dependents because the recent standards incorporate past lessons learned and advancements in electrical, fire

protection, and environmental safety. The DoD applies additional requirements for Government-managed (unaccompanied) housing which are defined by the UFC. Reference Appendix B – “Standards and Criteria” for a full list of inspection criteria.

We did not inspect to minimum state and local codes and standards, nor did we determine the codes applicable at the time of construction or renovation for a particular housing unit. In addition, we did not evaluate privatized housing contract agreements to determine which DoD policies and requirements were applied since the evaluation was to a recent baseline set of standards. Therefore, a deficiency represents non-compliance with the recent codes and standards used for this inspection, and may not be a violation of code (minimum safety standards) as defined by the Authority Having Jurisdiction.<sup>1</sup>

We selected units within building facilities for inspection based on variety of size, type, and age. We also inspected common areas such as utility rooms, boiler rooms, mechanical rooms, electrical rooms, laundry rooms, lounges, and common kitchen areas. We interviewed residents, maintenance personnel, housing management, and other installation subject matter experts (SMEs).

The environmental health and safety inspections focused on radon, mold, water quality, lead based paint, asbestos, and pest management. Also, we tested radon levels using short-term test kits for buildings selected at random to cover accompanied housing and unaccompanied housing at each installation. We also tested drinking water quality at each installation for the presence of lead, copper, microbial (total coliform) contamination, and chlorine residue. The water samples were collected from buildings selected at random from accompanied housing and unaccompanied housing at each installation.

The SMEs supporting the inspections were from within DoD and included Washington Headquarters Services (WHS). They included environmental engineers, fire protection engineers, general engineers, industrial hygienists, electricians, and quality assurance specialists. Reference Appendix A – “Scope and Methodology” for details on our scope and methodology. The inspection teams drafted deficiency forms for each deficiency identified; making sure each issue was documented and substantiated.

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<sup>1</sup> NFPA 1, “Fire Code,” 2015 Edition defines Authority Having Jurisdiction as an organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

## Overall Findings and Recommendations

Accompanied housing at USAG Fort Belvoir and JBAB were in better overall condition and better maintained than Government-managed unaccompanied housing. The accompanied housing units were newer and more recently renovated than the Government unaccompanied housing units. Many barracks and unaccompanied housing units at both USAG Fort Belvoir and JBAB have not been extensively renovated. The recently renovated or newly constructed houses had a greater compliance with codes and standards. For instance, the unaccompanied housing was on average built or renovated on average 33 years ago, but accompanied housing was built or renovated on average 10 years ago.

The inspection teams identified a total of 132 deficiencies at USAG Fort Belvoir and 184 deficiencies at JBAB in the 3 evaluation categories: electrical systems, fire protection, and environmental health and safety (see Table 1). We identified a total of 316 combined deficiencies.

*Table 1. USAG Fort Belvoir and JBAB Deficiencies by Military Housing Type*

Site	Housing Type	Units Inspected	Electrical Deficiencies	Fire Protection Deficiencies	Environmental Health and Safety Deficiencies
USAG Fort Belvoir	Accompanied	25	40	17	4
	Unaccompanied	13	25	41	5
	<b>Total = 132</b>	<b>38</b>	<b>65</b>	<b>58</b>	<b>9</b>
JBAB	Accompanied	17	61	30	2
	Unaccompanied	40	42	43	6
	<b>Total = 184</b>	<b>57</b>	<b>103</b>	<b>73</b>	<b>8</b>
<b>Totals by Category</b>			<b>168</b>	<b>131</b>	<b>17</b>

\* Note that multiple issues of the same code were counted as one deficiency per housing building. Air handling, electrical, kitchen, laundry, mechanical, and communication rooms were not included in the number of units inspected.

### ***USAG Fort Belvoir***

From January 26, 2015 to January 30, 2015, we inspected 16 unaccompanied housing units in 5 buildings and 25 accompanied housing units. Our inspection teams identified a total of 132 deficiencies at USAG Fort Belvoir. The teams identified 65 deficiencies in electrical systems, 58 deficiencies for the fire protection systems, and 9 deficiencies for environmental health and safety (see Table 2). No deficiencies were found for water quality, radon, or pest management.

USAG Fort Belvoir water supply is owned and operated by the American Water Military Services Group (AWMSG). Because USAG Fort Belvoir is located in Virginia, AWMSG complies with the waterworks regulations for Virginia as well as any additional regulations that may be applicable. AWMSG does not have operational control or responsibility of distribution systems installed by the private housing partner. Therefore, the private housing partner has retained third-party services to provide Operations and Maintenance (O&M) services for supply and waste water systems not covered by AWMSG's scope of service. This appears to be "good faith" stewardship by the private housing partner to address a potential gap in water quality management for the affected communities, despite agreements with the Government that specifically exclude responsibility for water quality testing.

*Table 2. USAG Fort Belvoir Deficiencies Totals by Category*

USAG Fort Belvoir	Electrical Systems	Fire Protection Systems	Environmental Health and Safety					Total  <b>132</b>
	All Areas	All Areas	Asbestos/ Lead/ PCB	HVAC/ Mold	Radon	Water Quality	Pest Management	
	65	58	4	5	0	0	0	

### ***Joint Base Anacostia-Bolling***

From February 2, 2015 through February 6, 2015, we inspected 17 accompanied housing units in 8 accompanied housing communities, and 33 unaccompanied housing units in the 4 barrack buildings for a total of 50 housing units.

The teams identified a total of 184 deficiencies in JBAB: 103 deficiencies in electrical systems, 73 deficiencies in fire protection systems, and 8 deficiencies related to environmental health and safety (see Table 3).

*Table 3. JBAB Deficiencies Totals by Categories*

JBAB	Electrical Systems	Fire Protection Systems	Environmental Health and Safety					Total  <b>184</b>
	All Areas	All Areas	Asbestos/ Lead/ PCB	HVAC/ Mold	Radon	Water Quality	Pest Management	
	103	73	3	5	0	0	0	

## Finding A

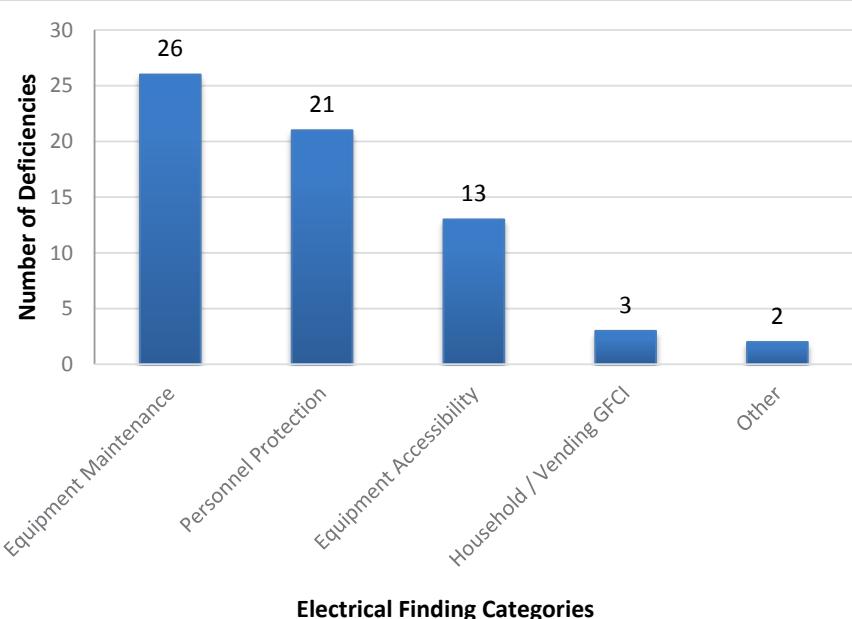
### USAG Fort Belvoir Electrical Systems

USAG Fort Belvoir did not ensure that housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units have multiple deficiencies in its electrical systems that pose a risk of injury or death.

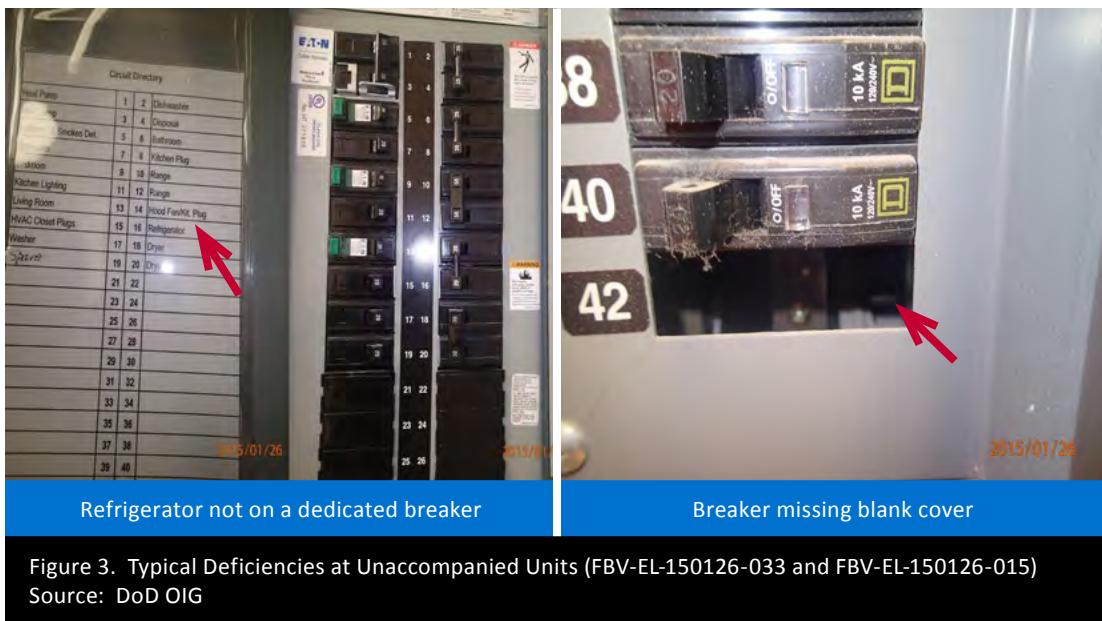
### Discussion

We identified 65 electrical system deficiencies for both accompanied and unaccompanied housing units. We grouped them into five categories (see Figure 2). The majority of deficiencies for both accompanied housing and unaccompanied housing were in relation to equipment maintenance, personnel protection, and equipment accessibility. NFPA 70, "National Electrical Code," defines personnel protection as "a system of devices and constructional features used together to protect against electric shock of personnel." Equipment maintenance examples included conduits not properly supported, electrical panel schedule not labeled correctly, and electrical wires not terminated properly. Personnel protection examples included missing electrical box panel covers and knock-out seals, and unrated ceiling fan boxes. Equipment accessibility examples included blocked electrical panel access and a broken electrical panel door closing and opening mechanism.

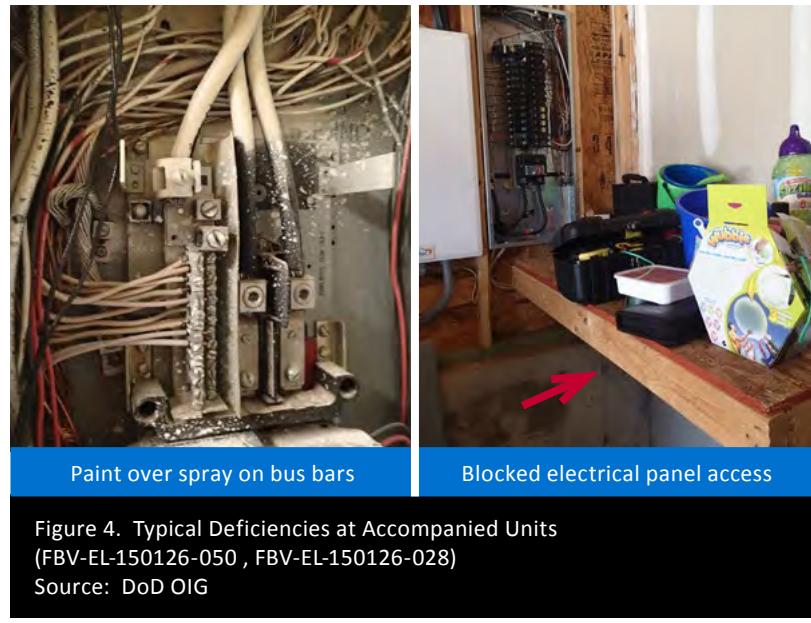
*Figure 2. USAG Fort Belvoir Electrical Systems Deficiencies*



In the unaccompanied housing, we identified improper installation of dedicated breakers for refrigerators, inadequate installation of electrical receptacles and boxes, ceiling fans attached to unapproved electrical boxes, and missing breaker blanks in electrical panels. For instance, the use of an undedicated branch circuit for the refrigerator could cause unnecessary tripping of the circuit breaker resulting in food spoilage. Also, an uncovered opening in the breaker panel could lead to unwanted debris entering electrical panel and creating a short circuit. Figure 3 shows typical examples of the deficiencies found.



In the accompanied housing, we identified non-ground fault circuit interrupter (GFCI) protected electrical outlets, improper installation of electrical panels, paint over spray on the inside of electrical panels, and inaccessible electrical panels. Household and/or vending GFCI examples included GFCI outlets not being used in the required locations such as laundry rooms. For instance, some electrical outlets were not GFCI; the requirement is to have GFCI protection within 6 feet of the outside edge of the sink to prevent the risk of shock or electrocution. Paint spray on bus bars can lead to overheating and increasing risk of fire, and inaccessible electrical panels prevent immediate access in an emergency. Figure 4 shows typical examples of the deficiencies found during the inspection.



## Recommendations, Management Comments, and Our Response

### ***Recommendation A***

We recommend that the Commander, USAG Fort Belvoir:

1. **Conduct an effective root cause analysis and implement a corrective action plan for all electrical deficiencies identified in this report.**

### *Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, disagreed and stated that several DoD OIG findings associated with privatized housing cited nonapplicable building codes and/or nonapplicable DoD facilities guidance as the basis of the findings. The Commander also disagreed with several individual deficiencies. For deficiencies FBV-EL-15126-005 and FBV-EL-15126-011, USAG Fort Belvoir stated that the room designator tag did not impede access to the electrical panel access door. In addition, for deficiencies FBV-EL-15126-032 and FBV-EL-15126-033, USAG Fort Belvoir disagreed stating that the refrigerators installed were in accordance with the manufacturer's written instructions.

### *Our Response*

Comments from the Commander, USAG Fort Belvoir, do not meet the intent of the recommendation. The DoD OIG recognizes that some of the deficiencies cited may not be violations of code when taking into account the specific codes in existence

at the time of construction or renovation. For each of the 38 units inspected at USAG Fort Belvoir, we did not evaluate the electrical system codes and standards applicable at the time the housing unit was constructed. Please refer to the Inspection Process and Criteria section of this report for further detail. A deficiency represents a non-compliance with the codes and standards used for this inspection, and may not be a violation of code (minimum safety standards) as defined by the jurisdiction responsible for enforcing the requirements of a code or standard. Therefore, USAG Fort Belvoir Commander should work with the Fort Belvoir privatized housing partner to evaluate each deficiency, determine if it is an electrical code violation, and resolve those violations.

Regarding the resolution of deficiencies that are not violations of code but were cited through the inspection, the USAG Fort Belvoir Commander should work with the privatized housing partner to evaluate each electrical system deficiency and determine the safety risk to occupants. The level of risk should be assessed to determine if corrective actions are warranted since the deficiencies identified by using recent standards as criteria reflect current improvements in electrical system safety. Additional comments are required. We request USAG Fort Belvoir provide a copy of its corrective action plan to ensure timely resolution of all electrical deficiencies that are violations of code. The plan should also identify whether each deficiency was addressed.

Furthermore, USAG Fort Belvoir responded to several specific deficiencies which require an OIG response. For deficiencies FBV-EL-15126-005 and FBV-EL-15126-011, the room designator tag hinders maintenance personnel from quickly accessing the electrical panel wiring and not just the panel door. Also, for deficiencies FBV-EL-15126-032 and FBV-EL-15126-033, the refrigerator manual stated that the refrigerator must be plugged into its own dedicated electrical outlet. Instead, the refrigerator and exhaust fan shared a single circuit breaker. We recommend USAG Fort Belvoir correct these deficiencies.

**2. Create and execute a plan for performing ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical codes and standards.**

***Commander, USAG Fort Belvoir, Comments***

The Commander, USAG Fort Belvoir, disagreed and stated that guidance received from Office of Assistant Secretary Army (Installations, Energy, and Environment) prohibits Army personnel from conducting Health and Welfare inspections of privatized homes. ASA (IE&E) Policy Memorandum #1, "Residential Communities Initiative (RCI) Policy for Major Decision Authority," paragraph 4a states: "Garrison Commanders shall not authorize, direct or permit Army representatives

to initiate Health and Welfare inspections on privatized housing." In addition, the Commander stated that the lack of available resources and projected future reductions in resources do not adequately provide for or allow additional oversight of housing facilities.

#### *Our Response*

Comments from the Commander, USAG Fort Belvoir, do not meet the intent of the recommendation. Additional comments are required. We request that the USAG Fort Belvoir Commander perform the appropriate management oversight to ensure that a comprehensive electrical system inspection and maintenance plan exists and is sufficient for both accompanied and unaccompanied housing. We did not seek that inspections of privatized housing be performed by Army personnel. In addition, the USAG Fort Belvoir Commander should work with the Department of the Army to address the lack of oversight resources necessary to ensure the health and welfare of housing occupants.

### **3. Work with the private housing partner to ensure that an electrical inspection and maintenance plan is achieved.**

#### *Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, agreed but stated that several DoD OIG deficiencies associated with privatized housing cited nonapplicable building codes and/or nonapplicable DoD Facilities guidance.

#### *Our Response*

Comments from the Commander, USAG Fort Belvoir, partially meet the intent of the recommendation. Additional comments are required. As stated in our response to A.1, evaluation of each deficiency is required to determine whether a violation of code exists, a minimum safety requirement has been violated, and that resolution is warranted based on the risk to occupants. The purpose of Recommendation A.3 is to ensure that privatized housing facilities are properly inspected and maintained. We appreciate that the USAG Fort Belvoir Commander agreed with our recommendation but seek the privatized housing electrical system inspection and maintenance plan to ensure future safety issues are identified and resolved in a timely manner.

## Finding B

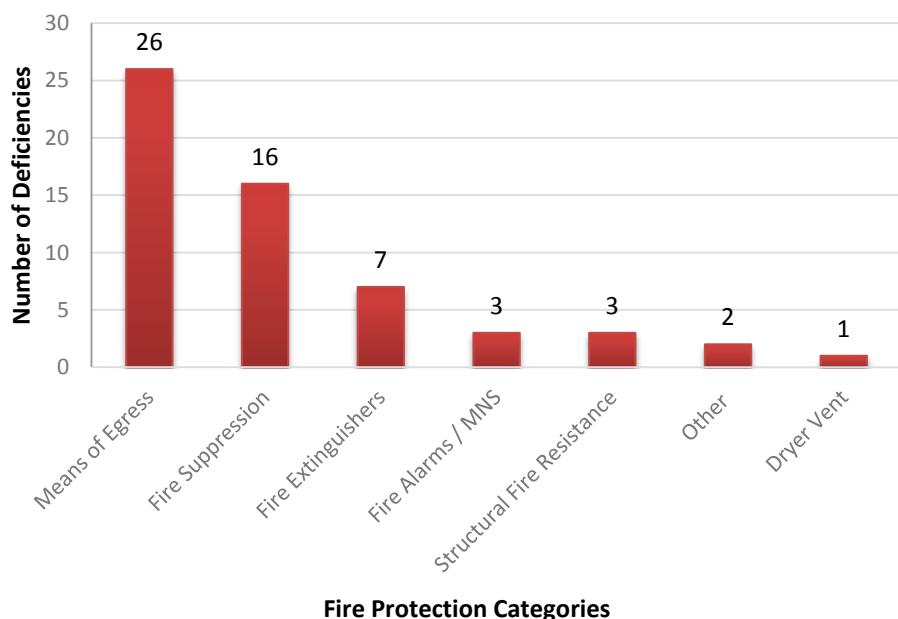
### USAG Fort Belvoir Fire Protection Systems

USAG Fort Belvoir did not ensure that housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units have multiple deficiencies in its fire protection systems that pose a risk of injury or death.

### Discussion

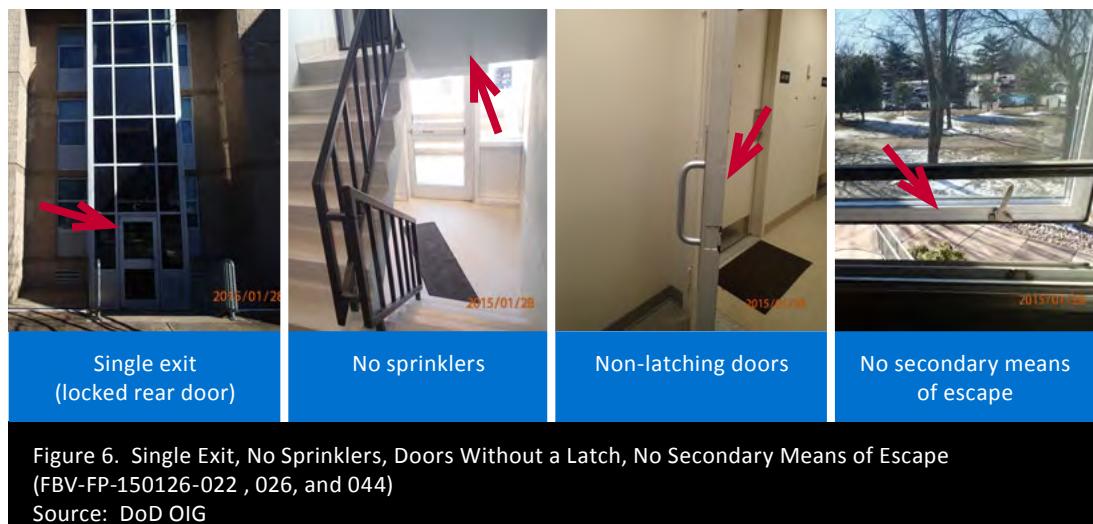
We identified 58 deficiencies related to fire protection systems which are grouped in 7 categories (see Figure 5), with the majority of deficiencies found in unaccompanied housing. Means of egress and fire suppression had the most deficiencies in the fire protection categories. Some examples of means of egress included no secondary means of escape, handrails that were not contiguous, and inadequate exit signage. Some examples of fire suppression included sprinkler protective covers that were not removed, missing sprinklers, and fire doors propped open with missing closing/latching hardware.

*Figure 5. USAG Fort Belvoir Fire Protection Systems Deficiencies*



In unaccompanied housing the team identified deficiencies in the installation of sprinkler systems, windows that were undersized, sprinkler heads that were covered, fire extinguishers that were not periodically inspected or maintained, structural fire barriers that were defeated, insufficient exit signage, fire doors propped open, and a dryer vent needing immediate cleaning. For instance, at McRee barracks the sprinkler systems were not installed at the top and bottom of the exit stairs, which in the event of a fire could affect the structural integrity of the stairs or prevent the use of the stairs as a protected means of egress. McRee Barracks living quarters had windows that did not meet the minimum opening dimensions for a secondary means of escape for occupants. In several of the inspected barracks, sprinkler heads were covered with paint or protective caps used during shipping. If the sprinkler head bulb is painted or covered, it will not break at the right temperature and release water. The team found fire extinguishers that were not periodically inspected, nor showed any objective evidence of the required 6-year maintenance activities being performed. In McRee Barracks, the fire extinguishers were found in locked-cabinets equipped with unbreakable Plexiglas preventing accessibility in a fire emergency.

In addition, signage was deficient throughout USAG Fort Belvoir. Some exit signs were missing, not illuminated, were mounted inside the stairwells instead of the common corridors, and mounted too far away from the stairwell exit doors. Also, several doors were propped open, which could lead to smoke entering stairwells, thus preventing the use of a particular exit as a means of egress. We also found several instances of compromised fire barriers; due to cable conduits routed through unsealed holes in fire barrier walls in electrical and mechanical rooms creating a means for fire and smoke to propagate. Figure 6 shows examples of the deficiencies.



Although not a systemic item, a dryer vent had an excessive amount of lint build-up (see Figure 7). Dryer lint build up is a leading cause of household fires.



For accompanied housing, the deficiencies found were related to smoke detection. Some accompanied housing units lacked smoke alarms outside of the bedrooms which would delay notification to sleeping individuals. We also found housing units with handrails that were not continuous for the length of the stairs, posing a risk for falling and preventing efficient egress in dim lighting conditions. There were several older inherited accompanied housing units built to older codes that did not open 24 inches disqualifying them as a secondary means of escape as defined under current codes. The lack of a fully compliant means of escape would prevent firefighters with emergency equipment from entering through the window.

## Recommendations, Management Comments, and Our Response

### ***Recommendation B***

We recommend that the Commander, USAG Fort Belvoir:

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all fire protection deficiencies identified in this report.**

### ***Commander, USAG Fort Belvoir, Comments***

The Commander, USAG Fort Belvoir, disagreed and stated that several DoD OIG findings associated with privatized housing cited nonapplicable building codes and/or nonapplicable DoD facilities guidance as the basis of the findings.

### *Our Response*

Comments from the Commander, USAG Fort Belvoir, do not meet the intent of the recommendation. Additional comments are required in that we seek USAG Fort Belvoir's plan of action for all fire protection system deficiencies. As stated in our response to A.1, a deficiency represents a non-compliance with the codes and standards used for this inspection, and may not be a violation of code. Therefore, USAG Fort Belvoir Commander should work with the Fort Belvoir privatized housing partner to evaluate each deficiency, determine if it is a fire protection system code violation, and resolve those violations. Regarding resolution of deficiencies that are not violations of code but were cited through our inspection, the USAG Fort Belvoir Commander and privatized housing partner should evaluate each fire protection system deficiency, and determine the level of health and safety risk to occupants. The level of risk should be assessed to determine if corrective actions are warranted since the deficiencies identified by using recent standards as criteria reflect current improvements in fire protection system safety.

**2. Create and execute a plan for performing ongoing inspection and maintenance of all housing units to attain compliance with applicable fire protection codes and standards.**

### *Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, disagreed and stated that guidance received from Office of Assistant Secretary Army (Installations, Energy, and Environment) prohibits Army personnel from conducting Health and Welfare inspections of privatized homes. ASA (IE&E) Policy Memorandum #1, "Residential Communities Initiative (RCI) Policy for Major Decision Authority," paragraph 4a states: "Garrison Commanders shall not authorize, direct or permit Army representatives to initiate Health and Welfare inspections on privatized housing." In addition, the Commander stated that the lack of available resources and projected future reductions in resources do not adequately provide for or allow additional oversight of housing facilities.

### *Our Response*

Comments from the Commander, USAG Fort Belvoir, do not meet the intent of the recommendation. Additional comments are required. We request that the USAG Fort Belvoir Commander perform the appropriate management oversight to ensure that a comprehensive fire protection system inspection and maintenance plan exists and is sufficient for both accompanied and unaccompanied housing. We did not seek that inspections of privatized housing be performed by Army

personnel. In addition, the USAG Fort Belvoir Commander should work with the Department of the Army to address the lack of oversight resources necessary to ensure the health and welfare of housing occupants.

**3. Work with the private housing partner to ensure that a fire protection inspection and maintenance plan is achieved.**

*Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, agreed but stated that several DoD OIG deficiencies associated with privatized housing cited nonapplicable building codes and/or nonapplicable DoD facilities guidance.

*Our Response*

Comments from the Commander, USAG Fort Belvoir, partially meet the intent of the recommendation. Additional comments are required. As stated in our response to A.1, evaluation of each deficiency is required to determine whether a violation of code exists, a minimum safety requirement has been violated, and that resolution is warranted based on the risk to occupants. The purpose of Recommendation B.3 is to ensure that privatized housing facilities are properly inspected and maintained. We appreciate that the USAG Fort Belvoir Commander agreed with our recommendation but seek the privatized housing fire protection system inspection and maintenance plan to ensure future safety issues are identified and resolved in a timely manner.

## Finding C

### USAG Fort Belvoir Environmental Health and Safety

USAG Fort Belvoir did not adequately maintain exhaust ventilation systems in its barracks. The lack of adequate maintenance contributed to the moisture and mold problems identified. Also, older accompanied housing communities had LBP that was flaking, peeling, or chalking. As a result, personnel may be exposed to environmental hazards.

### Discussion

The team identified nine deficiencies related to environmental health and safety in accompanied and unaccompanied housing. Four of the five deficiencies that were found in the unaccompanied housing were related to the lack of maintenance of the heating, ventilation, and air conditioning (HVAC) system. The deficiencies in the accompanied housing were related to deteriorated lead based paint conditions in the older neighborhoods.

At McRee Barracks, several bathrooms were underventilated and had delaminated ceiling paint, light rusting of metal components, and small quantities of superficial fungal growth. Barrack bathroom ventilation systems were not controlled by individual fans, but were controlled centrally and designed for continuous operation. Without maintaining bathroom exhaust systems in fully operational condition, McRee Barracks cannot achieve recommended ventilation flow rates. In addition, for one barrack building's HVAC system, we could not find any record of preventive maintenance on the interior filters. As a result, the filters showed evidence of heavy dust buildup. High-humidity conditions contributed to fungal growth, paint damage, surface rust, and clogged filters, which could increase an occupant's risk of exposure to airborne microbial materials.

We found evidence of mold-damaged building materials in the vestibule of McRee Barracks. We also noticed damaged, mold-impacted gypsum board adjacent to the fan-coil unit access cover and around the supply vent. There were visible mold stains and structural deterioration of the gypsum board matrix. The damage was indicative of a past water leak, either from fan-coil condensate or tempered supply/return water lines. USAG Fort Belvoir should remove or replace any materials degraded by water intrusion or displaying visible microbial impact.

In accompanied housing, specifically at Fort Belvoir and Gerber Village houses, we noted the presence of deteriorated lead based paint on window components, exterior columns, and interior door surfaces. The Fort Belvoir Residential

Communities Operations and Maintenance (FBRC O&M) Plan states, “[l]ead Hazards exist when the lead based paint is defective (for example, flaking, peeling, or chalking).” In accordance with the FBRC O&M plan, lead based paint is present in housing built before 1978 housing at Belvoir, Gerber, Jadwin, and River Villages. Specifically, the FBRC O&M plan states that the white window trim “in all units in Belvoir Village should be assumed to have lead based paint.” The observed presence of lead based paint confirmed that lead hazards have not been corrected, as required by the FBRC O&M Plan (see Figure 8). Lead based paint increases the risk of occupant exposure to lead compounds.



We sampled and tested the drinking water at a total of 27 selected locations from 23 accompanied housing and 4 units in the barracks for lead, copper, total coliform, *E. Coli*, and residual chlorine. The samples were analyzed by certified laboratories. All results were found to be below applicable action levels and limits. The lab results of the lead content in the water samples collected at these locations were all less than 2.5 micrograms per liter ( $\mu\text{g/l}$ ), well below the EPA recommended action level of 15.0  $\mu\text{g/l}$ . The copper content in the water samples collected at these locations ranged from less than 5.0  $\mu\text{g/l}$  to 205.0  $\mu\text{g/l}$  which is lower than EPA copper limit of 1,300.0  $\mu\text{g/l}$ . The residual chlorine level for water sample collected ranged from 0.098 parts per million (ppm) to 3.16 ppm which is below the EPA maximum residual disinfectant level of 4.0 ppm. All bacteriological water test results indicated an absence of total coliform and *E. Coli* bacteria. All drinking water quality test results were below applicable action levels for community water suppliers.

The same 27 locations were tested for radon using short-term, activated charcoal devices over a 3-day period. All results were below the EPA recommended action level of 4.0 picocuries per liter (pCi/l) of air. USAG Fort Belvoir radon levels have

been historically low and there was no requirement for USAG Fort Belvoir or FBRC to conduct subsequent testing. Historic monitoring data (2014) collected by FBRC showed no results approaching the EPA recommended action level of 4.0 pCi/l. The Environmental Management Plan (EMP) states that radon sampling will be conducted as necessary. The FBRC provided the radon data from its annual sampling from accompanied housing which are consistent with our radon inspection test results. However, please note that the unaccompanied units have not been tested since the early radon screening in the 1990s.

For pest management and infestation, the Department of Public Works (DPW) provided a compliant integrated pest management (IPM) program. The IPM Coordinator provided copies of Army approved pest plans. DPW assists FBRC by providing mosquito and animal control for the residential areas. FBRC retains third-party pest control services, and makes available to DPW all program documents identified in the EMP. We did not observe anything that indicated nonconformance with required services or regulatory standards.

## **Recommendations, Management Comments, and Our Response**

### ***Recommendation C***

**We recommend that the Commander, USAG Fort Belvoir:**

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all environmental health and safety deficiencies identified in this report.**

### ***Commander, USAG Fort Belvoir, Comments***

The Commander, USAG Fort Belvoir, disagreed and stated that several DoD OIG findings associated with privatized housing cited nonapplicable building codes and/or nonapplicable DoD facilities guidance as the basis of the findings.

### ***Our Response***

Comments from the Commander, USAG Fort Belvoir, do not meet the intent of the recommendation. Additional comments are required in that we seek USAG Fort Belvoir's plan of action for all environmental health and safety deficiencies. The privatized housing partner is required to comply with all applicable Federal, State, and Local laws and regulations as agreed upon in the Environmental Management Plan (EMP) that exists between the privatized housing partner and USAG Fort Belvoir. For privatized housing, all deficiencies were written against the EMP.

**2. Improve heating, ventilation, and air conditioning (HVAC) maintenance in its barracks.**

*Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, agreed and stated that a project to upgrade HVAC in Permanent Party barracks was previously programmed and work is scheduled to commence during the summer of 2015.

*Our Response*

Comments from the Commander, USAG Fort Belvoir, meet the intent of the recommendation. No further comments are required.

**3. Work with the private housing partner to abate all defective lead based paint in accordance with its Operation and Maintenance Plan.**

*Commander, USAG Fort Belvoir, Comments*

The Commander, USAG Fort Belvoir, agreed and stated that FBRC and its property manager follow an Army-approved O&M plan for monitoring and repairing lead based paint.

*Our Response*

Comments from the Commander, USAG Fort Belvoir, partially meet the intent of the recommendation. The DoD OIG seeks additional information on the abatement plan to include the dates of when the lead based paint abatement will take place.

## Finding D

### JBAB Electrical Systems

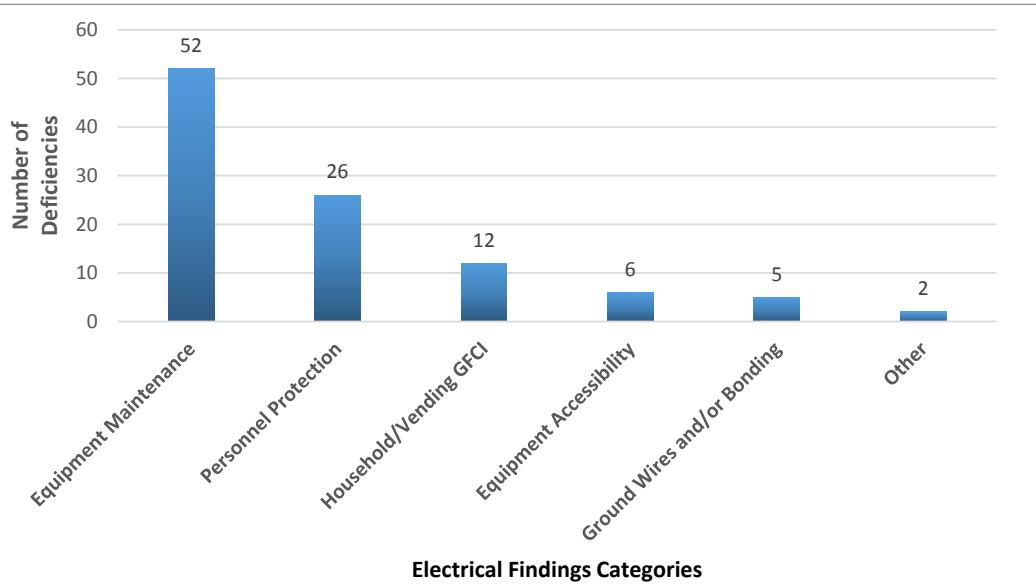
JBAB did not ensure that housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units have multiple deficiencies in its electrical systems that pose a risk of injury or death.

### Discussion

The team identified 103 electrical protection deficiencies in both accompanied and unaccompanied housing. We grouped them into six categories (see Figure 9). As shown in Figure 9, the majority of deficiencies were in relation to equipment maintenance, personnel protection, household/vending GFCI, equipment accessibility, and ground wires and/or bonding.

Equipment maintenance examples included conduits not properly supported, electrical panel schedules not labeled correctly, and electrical wires not terminated properly. NFPA 70 defines personnel protection as “a system of devices and constructional features used together to protect against electric shock of personnel.” Personnel protection examples included missing electrical box panel covers and knock-out seals, and unrated ceiling fan boxes. Household and/or vending GFCI examples included GFCI outlets not being used in the required locations such as garages, kitchens, and bathrooms. Equipment accessibility examples included access to electrical panels blocked and inadequate work

*Figure 9. JBAB Electrical Protection Systems Deficiencies*



space around electrical panels. Ground wires and/or bonding examples included ungrounded electrical switches and outlets, and neutral and ground wires not bonded at main electrical panel.

In unaccompanied housing, we found ungrounded light switches and electrical receptacles and an electrical panel cable that was unterminated, which could cause an electrical shock or short circuit. We also found missing breaker blanks that could lead to unwanted debris or pests entering through electrical panels, creating the possibility of arc flash and fire. Figure 10 shows typical examples of the deficiencies found.



Figure 10. Typical Deficiencies at Unaccompanied Units  
(JAB-EL-150202-013, JAB-EL-150202-020, and JAB-EL-150202-018)  
Source: DoD OIG

In accompanied housing, we identified inaccessible electrical panels, on-GFCI protected electrical outlets at required locations, and unsecured electrical wires. For instance, we found electrical junction boxes with missing covers and exposed energized wires increasing the risk of electrical shock. Figure 11 shows typical examples of the electrical systems deficiencies found.



Figure 11. Typical Deficiencies at Accompanied Units  
(JAB-EL-150202-053, and JAB-EL-150202-048)  
Source: DoD OIG

## Recommendations, Management Comments, and Our Response

### **Recommendation D**

We recommend that the Commander, JBAB:

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all electrical deficiencies identified in this report.**

#### *Commander, Navy Installations Command, Comments*

Commander, Navy Installations Command, responding for JBAB agreed and stated that corrective actions for the 103 electrical deficiencies and work orders have been submitted for start of work. Hunt Military Communities housing units and barracks deficiencies are pending start of work to complete. Lincoln Military Housing has addressed the electrical deficiencies at Bellevue Family Housing and sent the tenants a letter asking them to remove items blocking the electrical panels.

#### *Our Response*

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation and has begun addressing the 103 electrical deficiencies. However, we seek the corrective action plan to ensure timely resolution of all identified electrical system deficiencies.

- 2. Create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical codes and standards.**

#### *Commander, Navy Installations Command, Comments*

Commander, Navy Installations Command, responding for JBAB, agreed and stated that review of the inspection, maintenance, and repair programs are underway to ensure compliance with applicable codes and standards for electrical systems. Due to the complexity of the deficiencies, contract support is required, which is in various stages of planning and execution.

*Our Response*

Comments from the Commander, Navy Installations Command, partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation and has begun reviewing their electrical system inspection, maintenance, and repair program. However, we seek the comprehensive inspection and maintenance plan for both accompanied and unaccompanied housing units so that timely identification and resolution of electrical system deficiencies will occur in the future.

**3. Work with the private housing partners to ensure that an electrical inspection and maintenance plan is achieved.**

*Commander, Navy Installations Command, Comments*

Commander, Navy Installations Command, responding for JBAB, agreed and stated that JBAB will ensure that sufficient, qualified resources are available and assigned to inspect and verify that all occupied housing facilities comply with current building codes and requirements.

*Our Response*

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation. However, we request JBAB's electrical inspection and maintenance plan for Hunt Military Communities and Lincoln Military Housing to ensure timely identification and resolution of electrical system deficiencies.

## Finding E

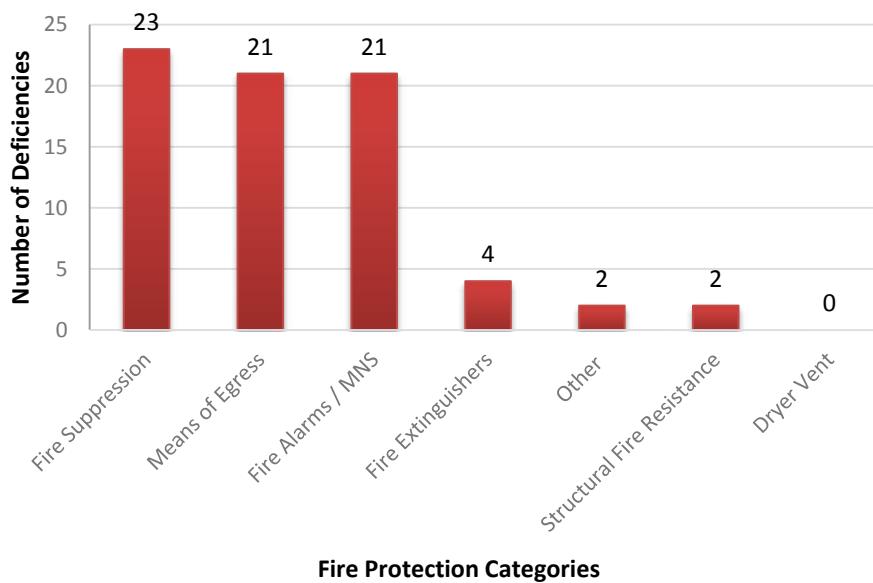
### JBAB Fire Protection Systems

JBAB did not ensure that housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units have multiple deficiencies in its fire protection systems that pose a risk of injury or death.

### Discussion

We identified 73 deficiencies related to fire protection systems and grouped them in 7 categories (see Figure 12), with the majority of deficiencies found in the barracks and BOQs. The accompanied family housing issues were also a concern and are also discussed separately.

*Figure 12. JBAB Fire Protection Systems Deficiencies*



At JBAB, most deficiencies found in the unaccompanied housing were related to fire protection and suppression systems, and means of egress. In the Enterprise Hall, we found a large fire sprinkler pipe projected into the stairwell reducing egress width of stairwell below the required 36 inches (see Figure 13). The reduction in stairwell egress width by the sprinkler pipe is a code violation that can slow egress. Injury could also occur if somebody walks into the pipe.



Figure 13. Fire Sprinkler Pipe Reduces Egress Width  
(JAB-FP-150202-027)  
Source: DoD OIG

For fire suppression systems, we also found multiple instances of sprinkler heads throughout barrack and dormitories with protective caps still on, clogged with dust and/or debris, corroded, covered with paint, or missing escutcheons (see Figure 14). Painted or clogged sprinklers that are not installed and maintained properly can fail to operate, leading to a fire spread.

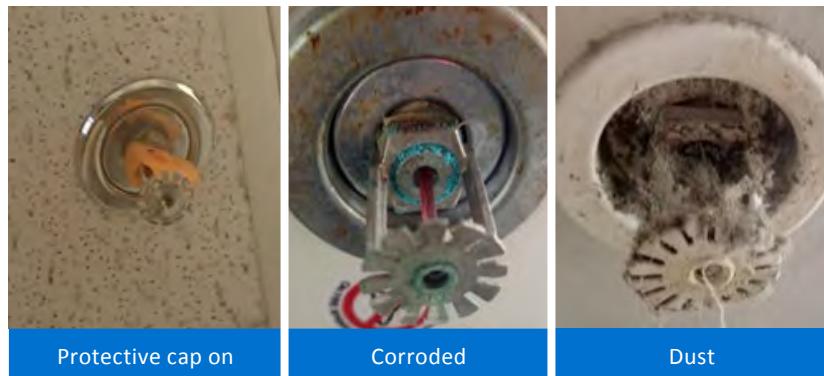


Figure 14. Faulty Sprinklers (JAB-FP-150202-012, 047, and 54)  
Source: DoD OIG

For means of egress, buildings with fire doors in exit access corridors were being held open by door-stops mounted on the doors, or by floor mounted hooks or magnets. In addition, some fire doors did not self-close or self-latch, and were missing positive latching hardware. Fire doors that do not latch could lead to the spread of fire and smoke, compromising the integrity of the building's exits and could render exits unusable during an emergency. The lack of latching doors for corridors could also compromise the protected means of egress.

Some buildings were missing illuminated exit signs or they were broken. In addition, the illuminated exit signs were installed too far from the stairwell exit doors, or emergency light wall-units were non-operational. The lack of exit

signs can slow an occupant from identifying an exit during fire conditions. In addition, housing stairs were missing handrails, or the guard rails were missing some intermediate rails. Lack of an outer handrail in an exit stair can result in occupants tripping or falling down the stairs with no way to catch themselves. A guardrail with missing intermediate rails leaves a large opening that people could fall through.

In addition, fire extinguishers were not inspected periodically. Many fire extinguishers in barracks were not receiving annual visual examinations nor was there objective evidence of 6-year maintenance activities being performed. Improper maintenance may result in failure of the extinguisher to properly operate in the event of a fire. For the category of structural fire resistance, we found deficiencies in telecommunication rooms where the building had unprotected penetrations through the floor fire barrier. Unprotected penetrations in fire barriers allow the passage of smoke and products of fire through the building, which can endanger occupants exiting the building during an emergency. These deficiencies increase the risk of fire, loss of life, and property.

In accompanied housing, the deficiencies found related to smoke and carbon monoxide (CO) detection, and lack of secondary means of escape. Some houses did not have smoke alarms in the bedrooms and outside the sleeping areas, also CO detectors were not installed on every floor as required by code. The lack of smoke detectors in bedrooms or CO detectors on every floor could lead to delayed evacuation, injury, or death. In addition, we found smoke alarms that should have been interconnected and were not. Non-interconnected smoke detectors could fail to notify occupants of a fire in a remote part of their house, which could lead to delayed evacuation, injury, or death. Also some houses had no second means of escape from the basement. Lack of a secondary means of escape can trap occupants in the basement during a fire, which could lead to injury or death.

## **Recommendations, Management Comments, and Our Response**

### ***Recommendation E***

**We recommend that the Commander, JBAB:**

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all fire protection deficiencies identified in this report.**

***Commander, Navy Installations Command, Comments***

Commander, Navy Installations Command, responding for JBAB, agreed and stated that JBAB will ensure that sufficient, qualified resources are available and assigned to inspect and verify that all occupied housing facilities comply with current building codes and requirements. Due to the complexity of the deficiencies, contract support is required, which is in various stages of planning and execution.

***Our Response***

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation. However, we request JBAB provide a copy of its corrective action plan to ensure timely resolution of all fire protection system deficiencies.

- 2. Create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable fire protection codes and standards.**

***Commander, Navy Installations Command, Comments***

Commander, Navy Installations Command, responding for JBAB, agreed and stated that a review of the inspection, maintenance, and repair programs are underway to ensure compliance with applicable codes and standards for fire protection systems. As code changes occur over time, implementation of required changes would be addressed in future renovations and/or new construction that may occur.

***Our Response***

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation. However, we request a comprehensive inspection and maintenance plan for both accompanied and unaccompanied housing units so that timely identification and resolution of fire protection system deficiencies will occur in the future.

**3. Work with the private housing partners to ensure that a fire protection inspection and maintenance plan is achieved.**

*Commander, Navy Installations Command, Comments*

Commander, Navy Installations Command, responding for JBAB, agreed and stated that JBAB will develop a plan to ensure sufficient, qualified resources are available and assigned to inspect and verify that all housing buildings and units are in compliance with requirements for fire protection systems.

*Our Response*

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation. However, we request JBAB's fire inspection and maintenance plan for Hunt Military Communities and Lincoln Military Housing to ensure timely resolution of fire protection system deficiencies.

## Finding F

### JBAB Environmental Health and Safety

JBAB did not have an asbestos management program, plan, or an appointed asbestos program manager. The lack of an effectively administered asbestos management program may result in insufficient identification and improper transportation and disposal of asbestos-containing materials. As a result, personnel may be exposed to environmental hazards.

### Discussion

The team identified eight deficiencies related to environmental health and safety in accompanied and unaccompanied housing. We found the majority of the deficiencies were found in the barracks and BOQs and they are discussed in the following sections. The deficiencies in the accompanied housing were related to deteriorated lead based paint in the older neighborhoods.

JBAB did not have an asbestos management program or appointed asbestos program manager. All Navy installations are required to establish an asbestos management program to implement standards for the periodic inspection, sampling, control, evaluation, maintenance, and abatement of asbestos-containing material. This is a requirement in accordance with policy set forth in Chief of Naval Operations Manual (OPNAV M) - 5090.1D, *"Environmental Readiness Program."* The lack of an effectively administered asbestos management program may result in unintended fiber release episodes. Additionally, improper transportation and disposal of asbestos-containing materials may occur.

At Blanchard Hall rooms, we found evidence of insufficient ventilation and humidity control that impacted HVAC and fire suppression system metal components. There was significant corrosion on the piping systems of in-room fan coil units (see Figure 15). Although mold growth was not identified during the inspection, the evidence of uncontrolled moisture was a potential source for future mold growth. High humidity could cause amplification of fungal growth in the indoor environment that could lead to increased occupant exposure risk to airborne microbial materials.



Figure 15. Corrosion on the Piping Systems  
of In-Room Fan Coil Units  
(JBAB-EN-150202-001)  
Source: DoD OIG

During the inspection of Westover Estates accompanied housing, we noted evidence of damaged lead based paint on exterior siding components (see Figure 16). The observed presence of damaged lead based paint confirms that lead hazards had not been addressed, as required by the Bolling Family Housing Asbestos-Containing Materials/Lead Based Paint/Hazardous Materials O&M Plan. The Bolling Family Housing O&M plan states that, "lead hazard may exist, if the Lead based paint is flaking, peeling, chalking, or otherwise defective," and also states, "[l]ead hazards should be addressed." Damaged lead based paint could increase the risk of occupant tenant exposure to lead compounds.



Figure 16. Damaged Lead Based Paint on Exterior Siding  
(JAB-EN-150202-007)  
Source: DoD OIG

For drinking water sampling and testing, a total of 20 selected locations from 12 accompanied housing and 8 units in the barracks were sampled and tested for lead, copper, total coliform, *E. Coli*, and residual chlorine. We sent the samples to the certified laboratories for analysis. All results complied with the applicable regulatory limits. The residual chlorine level for water sample collected ranged from 0.03 ppm to 2.59 ppm which is below the EPA maximum residual disinfectant level of 4.0 ppm. All bacteriological water test results indicated an absence of total coliform and *E. Coli* bacteria. Drinking water quality test results were below applicable action levels for community water suppliers.

The environmental health and safety inspection team deployed radon test kits in 18 locations (10 in accompanied housing and 8 in unaccompanied housing). All radon level test results measured below the EPA-recommended 4.0 pCi/L action level.

During the inspections of the barracks, we noted that the interior lighting levels in the barrack hallways and rooms appeared dim. To further investigate, the inspection team measured the interior lighting levels using a light meter. The hallway horizontal illuminance levels in Blanchard Barracks and Enterprise Hall were found to be far below recommended levels. For example, illuminance levels measured ranged from 6 to 37 lux at Enterprise Hall which is below the target horizontal illuminance of 50 lux or 5 foot-candles average ( $\pm 10\%$ ). Dimly-lit hallways could reduce the effectiveness of the installed security cameras, and reduce their deterrence to sexual assault. Further, low-light conditions degrade quality of life by negatively affecting visual performance. JBAB should ensure minimum interior light levels in the barracks meet the Illuminating Engineering Society North America 10th edition standards referenced in UFC 3-530-01, "Design: Interior, Exterior Lighting and Controls."

## **Recommendations, Management Comments, and Our Response**

### ***Recommendation F***

**We recommend that the Commander, JBAB:**

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all environmental health and safety deficiencies identified in this report.**

***Commander, Navy Installations Command, Comments***

Commander, Navy Installations Command, responding for JBAB, agreed and stated JBAB will ensure that sufficient, qualified resources are available and assigned to inspect and verify that all occupied housing buildings and barracks are in compliance with environmental health and safety requirements.

***Our Response***

Comments from the Commander, Navy Installations Command partially meet the intent of the recommendation. The DoD OIG appreciates that the Commander, Navy Installations Command agreed with our recommendation. However, we seek the corrective action plan to ensure timely resolution of all identified environmental health and safety deficiencies.

**2. Implement an asbestos management plan and appoint an asbestos program manager, in accordance with DoD requirements .*****Commander, Navy Installations Command, Comments***

Commander, Navy Installations Command, responding for JBAB, agreed and stated that NAVFAC Washington has an Asbestos Management Program (AMP) that JBAB adheres to. The AMP has an appointed AMP Manager for the region. The JBAB Commanding Officer will appoint the NAVFAC Region Manager as the JBAB AMP Manager.

***Our Response***

Comments from Commander, Navy Installations Command meet the intent of the recommendation. No further comments are required.

## Appendix A

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### Scope and Methodology

We conducted this inspection from January 26 through February 6, 2015, in accordance with Council of Inspectors General on Integrity and Efficiency, "Quality Standards for Inspection and Evaluation." Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our inspection objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our inspection objectives.

### Inspection Criteria

We conducted military housing inspections to electrical, fire protection, and environmental health and safety standards as defined in Appendix B – "Standards and Criteria." The following provides additional background information on the key codes and standards used.

#### ***DoD Unified Facilities Criteria***

The DoD UFC streamlines all technical criteria and standards pertaining to the planning, designing, construction, and O&M of real property facilities. It applies to the Military Departments, DoD agencies, and DoD field activities, in particular non-privatized housing. UFC standards used for this inspection include UFC 3-600-01 Change 1, "Fire Protection Engineering for Facilities," UFC 3-520-01 Change 1, "Interior Electrical Systems," and UFC 3-560-01, "Electrical Safety – O&M." In most cases, UFCs state that if requirements in NFPA are more stringent than requirements in a UFC, the more stringent requirement takes precedence.

#### ***National Fire Protection Association Standards***

The NFPA is an internationally recognized organization that publishes more than 300 codes and standards for minimizing the risks and effects of fire by establishing criteria for building, design, service, and installation in the United States and other countries. NFPA standards used in this inspection include NFPA 70, "National Electrical Code," which is the most widely used code for electrical installations. We also used NFPA 1, "Fire Code," which establishes requirements for fire safety and property protection in new and existing buildings and NFPA 101, "Life Safety Code," which establishes requirements to protect building occupants from fire, smoke, and toxic fumes.

## ***Environmental Protection Agency Standards***

The Safe Drinking Water Act of 1974 governs the policies related to drinking water quality. EPA guidance for mold and moisture control was used for this inspection. In accordance with the Toxic Substance Control Act, EPA guidelines on asbestos and lead-based paint were used. We used EPA standards for the radon surveys.

## **Scope of Inspection**

We inspected electrical and fire protection, and environmental health and safety on military base accompanied and unaccompanied housing in USAG Fort Belvoir and Joint Base Anacostia-Bolling. The teams performed the inspections at Army Garrison Fort Belvoir, Virginia from January 26 through 30, 2015; Joint Base Anacostia Bolling, D.C., was inspected from February 2 through 6, 2015. The inspections included all types of military housing units, such barracks, BEQs, BOQs, and dormitories.

National Capital Region housing sites were selected based on population size, driving distance, and branch of service. We inspected housing buildings and/or units at each installation. Buildings and units selected included a variety of size, type, and age; with consideration to complaints received, work orders submitted, and onsite information gathered. We also planned to include inspection of common areas such as utility rooms, boiler rooms, laundry rooms, barrack lounges, and common kitchen areas.

Government contract administration policies and practices were not the focus of this inspection. Additionally, we did not identify and evaluate the performance of private housing partners to their contractual requirements.

## **Inspection Methodology**

Our inspections were conducted by three SME teams (electrical systems, environmental health and safety, and fire protection) that collectively visited each housing unit to be inspected. Each team consisted of an OIG Technical Assessment Directorate engineer and SMEs obtained from DoD which included WHS.

Each team inspected, documented and photographed the deficiencies, identified criteria, and captured any pertinent condition information. After inspecting each day, all issues were documented on deficiency forms, along with the specific codes cited, and appropriate impact statements. Deficiencies were documented as non-compliances with UFC, NFPA, NEC, and EPA environmental standards, DoD policies and instructions, Armed Services policies, and internal procedures and processes

for each facility. Quality control and configuration control was then applied to each and every deficiency and for all data obtained from a specific base. Upon completing the inspections at each installation, we briefed installation military leadership and provided draft copies of all deficiencies.

## **Use of Computer-Processed Data**

We did not use computer-processed data to perform this inspection.

## **Use of Technical Assistance**

Environmental engineers, fire protection engineers, general engineers, industrial hygienists, electricians, and quality assurance specialists actively participated in the inspections. SMEs were certified in their associated field.

## **Documentation Methodology**

All meetings, analysis, and other work was documented in the form of working papers. Working papers and references were cataloged in SharePoint. SharePoint was used as the primary organization and referencing tool for the project.

# Appendix B

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## Standards and Criteria

### **Federal Laws and Standards**

#### *Environmental Protection Agency Standards*

- Safe Drinking Water Act of 1974
- Toxic Substances Control Act of 1976

### **DoD Standards**

#### *DoD and Services Policies and Standards*

- DoD 4165.63-M, "DoD Housing Management," October 28, 2010
- DoDD 4715.1E, "Environmental Safety and Occupational Health," March 19, 2005
- DoDI 4150.07, "DoD Pest Management Program," May 29, 2008
- DoDI 4165.63, "DoD Housing," July 21, 2008
- DODI 6055.06, "DoD Fire and Emergency Services (F&ES) Program," December 21, 2006

#### *Unified Facilities Criteria*

- UFC 1-200-01, "General Building Requirement," Change 1, September 1, 2013
- UFC 3-410-01, "Heating, Ventilating, and Air Conditioning Systems," Change 1, October 2014
- UFC 3-520-01, "Interior Electrical Systems," Change 2, July 1, 2012
- UFC 3-560-01, "Electrical Safety, O&M," Change 4, May 1, 2012
- UFC 3-600-01, "Fire Protection Engineering for Facilities," Change 3, March 1, 2013
- UFC 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems," September 8, 2010
- UFC 4-010-01, "Department of Defense and Army Antiterrorism/Force Protection Standards," Change 1, October 1, 2013

#### *Environmental Health and Safety Criteria*

- AFGM 91-203\_AFGM2, "Air Force Guidance Memo to AFI 91-203 AF Consolidated Occupational Safety Instruction," July 25, 2013
- AFI 32-1001, "Civil Engineering Operations Management," August 1, 1999

- AFI 32-2001, "Fire Emergency Services Program," September 9, 2008
- AFI 32-6001, "Family Housing Management," October 24, 2008
- AFI 32-6005, "Unaccompanied Housing Management," Change 2, May 7, 2013
- AFI 48-148, "Ionizing Radiation Protection," September 21, 2011
- AFI 91-203\_AFGM2, "Air Force Consolidated Occupational Safety Instruction," July 25, 2013
- ANSI/ASHRAE 62.1-2013, "Ventilation for Acceptable Indoor Air Quality"
- AR 200-1, "Environmental Protection and Enhancement," December 13, 2007
- Army Regulation (AR) 420-1, "Army Facilities Management," August 24, 2012
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, "Environmental Readiness Program," January 10, 2014
- DA PAM 420-1-1, "Housing Management," April 2, 2009
- Department of the Air Force Memorandum, "Interim Policy and Guidance for the Prevention, Surveillance, and Remediation of Water Damage and Associated Mold Contamination in Air Force (AF) Facilities," May 10, 2005
- Department of the Navy Memorandum, "Interim Technical Guidance (ITG) FY 03-4, NAVFAC Mold Response Manual," June 06, 2003
- EPA 402-K-01-002, "Building Radon Out," April 2001
- EPA 402-K-02-003, "A Brief Guide to Mold, Moisture, and Your Home," Reprinted September 2010
- EPA 816-R-10-004, "Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems," March 2010
- EPA Technical Guidance, "3Ts for Reducing Lead in Drinking Water in Schools," Revised October 2006
- Facilities Criteria (FC) 4-721-10N, "NAVY and Marine Corps Unaccompanied Housing," November 1, 2012, Change 5, January 22, 2015
- NAVFAC, "Navy Radon Assessment and Mitigation Program (NAVRAMP)," September 10, 2002
- OPNAVINST 5100.23G CH-1, "Navy Safety and Occupational Health Program Manual," July 21, 2011
- OPNAV-M 5090.1, "Environmental Readiness Program Manual," January 10, 2014

- US Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide 277, "Army Facilities Management Information Document on Mold Remediation Issues," February 2002
- US Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide 278, "Industrial Hygiene/Preventive Medicine Mold Assessment Guide," February 2002

## **National Standards**

### *National Electrical Standards Criteria*

- NFPA 70, "National Electrical Code (NEC)," 2011 Edition
- NFPA 70, "National Electrical Code (NEC)," NFPA 70-2005 Edition

### *National Fire Protection Standards Criteria*

- NFPA 1, "Fire Code Handbook," Sixth Edition 2012
- NFPA 1, "Fire Code," 2015 Edition
- NFPA 10, "Standard for Portable Fire Extinguishers," 2013 Edition
- NFPA 10, "Standard for Portable Fire Extinguishers," 2010 Edition
- NFPA 13, "Standard for the Installation of Sprinkler Systems," 2013 Edition
- NFPA 13, "Standard for the Installation of Sprinkler Systems," 2010 Edition
- NFPA 13, "Standard for the Installation of Sprinkler Systems," 2010 Edition with Commentary
- NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," 2013 Edition
- NFPA 13R, "Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies," 2013 Edition
- NFPA 24, "Standard for the Installation of Private Fire Service Mains and Their Appurtenances," 2007 Edition
- NFPA 25, "Standard for the Inspection Testing and Maintenance of Water-Based Fire Protection System," 2014 Edition
- NFPA 25, "Standard for the Inspection Testing and Maintenance of Water-Based Fire Protection System," 2011 Edition
- NFPA 72, "National Fire Alarm and Signaling Code," 2013 Edition
- NFPA 72, "National Fire Alarm and Signaling Code," 2010 Edition
- NFPA 72, "National Fire Alarm and Signaling Code," 2007 Edition

- NFPA 80, "Standard for Fire Doors and Other Opening Protective," 2007 Edition
- NFPA 90A, "Standard for the Installation of Air-Conditioning and Ventilating System," 2009 Edition
- NFPA 101, "Life Safety Code," 2015 Edition
- NFPA 101, "Life Safety Code," 2009 Edition
- NFPA 101, "Life Safety Code," 2006 Edition
- NFPA 720, "Standard for Installation of Carbon Monoxide Detection," 2012 Edition

## ***Local Building Codes and Other Applicable Criteria***

### ***Local Jurisdiction and Other Applicable Criteria***

- ASCE 11-99, "Guide For Structural Assessment of Existing Building," 2000 Edition
- "Council of American Building Officials (CABO) One and Two Family Dwelling Code," 1995 Edition
- 2009 IBC, "International Building Code 2009 – Code and Commentary," Volume I
- 2009 IBC, "International Building Code 2009 – Code and Commentary," Volume II
- 2009 IFC, "International Fire Code," 2009
- 2012 IFC, "International Fire Code 2012," Code and Commentary
- 2009 IMC, "International Mechanical Code," 2009
- 2003 IRC, "International Residential Code," 2003
- 2006 IRC, "International Residential Code," 2006
- "2012 Virginia Statewide Fire Prevention Code," July 14, 2014

# Management Comments

## Commander, Navy Installation Command



DEPARTMENT OF THE NAVY  
OFFICE OF THE ASSISTANT SECRETARY  
ENERGY, INSTALLATIONS AND ENVIRONMENT  
1000 NAVY PENTAGON  
WASHINGTON DC 20380-1000

JUN 12 2015

### MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJ: Continental United States Military Housing Inspections – National Capital Region  
(Project No. D2014-DT0TAD-0220.000)

Department of the Navy comments on the subject draft report are attached. Also attached are comments from the privatized housing entities on findings related to housing which they own and operate.

Thank you for the opportunity to comment on the subject draft report. My point of contact is [REDACTED]

Steven Iselin  
Principal Deputy

Attachments  
As stated

Copy to:  
NAVINSGEN  
CNIC  
NAVFAC  
USAF

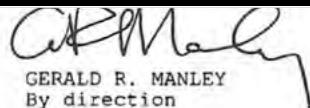
## Commander, Navy Installation Command (cont'd)



DEPARTMENT OF THE NAVY  
COMMANDER, NAVY INSTALLATIONS COMMAND  
701 EISCHARD STREET SE SUITE 1000  
WASHINGTON NAVY YARD, DC 20374-5140

5740  
Ser N00G/15U1028  
9 Jun 2015

From: Commander, Navy Installations Command  
To: Assistant Secretary of the Navy, Energy, Installations,  
and Environment  
Subj: CONTINENTAL UNITED STATES MILITARY HOUSING INSPECTIONS -  
NATIONAL CAPITAL REGION (REPORT NO. D2014-DTOTAD-0005)  
Ref: (a) DoD IG Memo of 19 May 15  
Encl: (1) CNIC Responses to Subject Draft Report  
1. Per reference (a), Commander, Navy Installations Command's  
(CNIC's) response to the subject Draft Report is provided in  
enclosure (1).  
2. The technical point of contact is [REDACTED]

  
GERALD R. MANLEY  
By direction

Copy to:  
CNIC (N00, N9)  
NAVINSGEN

## Commander, Navy Installation Command (cont'd)

### CONTINENTAL UNITED STATES MILITARY HOUSING INSPECTIONS - NATIONAL CAPITAL REGION (REPORT NO. D2014-DTOTAD-0005)

**Recommendation D.1:** We recommend that JBAB conduct an effective root cause analysis and implement a corrective action plan for all electrical deficiencies identified in this report.

**JBAB Response to Recommendation D.1:** JBAB concurs with this recommendation on the 103 identified deficiencies for Barracks/PPV-managed housing. Corrective actions for the 103 deficiencies for electrical, work orders, and CRL's have been submitted for start of work. The PPV Partners (Hunt), and Barracks deficiencies are pending start of work to complete, and Partner (Bellevue) has completed their electrical deficiencies, to include letters sent to the resident to remove items blocking the electrical panels. **CNIC concurs.**

**Recommendation D.2:** We recommend that JBAB create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical codes and standards.

**JBAB Response to Recommendation D.2:** JBAB concurs with this recommendation. A review of the inspection, maintenance, and repair programs is underway to ensure compliance with applicable codes and standards for electrical systems. Due to the complex nature of the deficiencies, corrective actions require contract support and are in various stages of planning and execution. ECD: (Estimated completion date) 1 August 2015. **CNIC concurs.**

**Recommendation D.3:** We recommend that JBAB work with the private housing partners to ensure that an electrical inspection and maintenance plan is achieved.

**JBAB Response to Recommendation D.3:** JBAB concurs with this recommendation and will ensure that sufficient, qualified resources are available and assigned to inspect and verify that all occupied housing buildings and Barrack units are in compliance with current building codes and requirements. **CNIC concurs.**

Enclosure (1)

## Commander, Navy Installation Command (cont'd)

**Recommendation E.1:** We recommend that JBAB conduct an effective root cause analysis and implement a corrective action plan for all fire protection deficiencies identified in this report.

**JBAB Response to Recommendation E.1:** JBAB concurs with this recommendation and will ensure sufficient, qualified resources are available and assigned to inspect and verify all housing buildings and units are in compliance with requirements for fire protection systems. Of the 73 fire protection deficiencies, 22 are for the PPV partner (Hunt); 2 are pending scheduling of work and 20 do not apply to the older construction units and would not require these units to meet the current building or fire codes and would be consistent for those homes given all were built to the same standards at the time of construction. Due to the complex nature of the Barracks, the 51 deficiencies, and corrective actions require contract support and are in various stages of planning and execution. ECD: (Estimated completion date) 1 August 2015. **CNIC concurs.**

**Recommendation E.2:** We recommend that JBAB create and execute a plan for ongoing inspection and maintenance of all housing units to attain compliance with applicable fire protection codes and standards.

**JBAB Response to Recommendation E.2:** JBAB concurs with this recommendation. A review of the inspection, maintenance, and repair programs is underway to ensure compliance with applicable codes and standards for fire protection systems. As codes changes occur over time, implementation of required changes would be addressed in future renovations and/or new construction that may occur. **CNIC concurs.**

**Recommendation E.3:** We recommend that JBAB work with the private housing partners to ensure that a fire protection inspection and maintenance plan is achieved.

**JBAB Response to Recommendation E.3:** JBAB concurs and will develop a plan to ensure sufficient, qualified resources are available and assigned to inspect and verify all housing buildings and units are in compliance with requirements for fire protection systems. **CNIC concurs.**

Enclosure (1)

## Commander, Navy Installation Command (cont'd)

**Recommendation F.1:** We recommend that JBAB conduct an effective root cause analysis and implement a corrective action plan for all environmental health and safety deficiencies identified in this report.

**JBAB Response to Recommendation F.1:** JBAB concurs with this recommendation and will ensure that sufficient, qualified resources are available and assigned to inspect and verify that all occupied housing buildings and Barrack units are in compliance with environmental health and safety requirements. Of the 8 environmental health and safety deficiencies, 2 are for PFV (Hunt) Housing and 1 has been corrected and 1 will be addressed by an upcoming renovation for this home. A remaining 6 deficiencies (Heating, Ventilation and A/C) found in the Barracks will be completed through contracting actions. ECD: (Estimated completion date)  
1 August 2015. **CNIC concurs.**

**Recommendation F.2:** We recommend that JBAB implement an asbestos management plan and appoint an asbestos program manager, in accordance with DoD requirements.

**JBAB Response to Recommendation F.2:** JBAB concurs. NAVFAC Washington has an Asbestos Management Program (AMP) that JBAB adheres to. The AMP has an appointed AMP Manager for the Region. The JBAB CO will appoint the NAVFAC Region Manager as the JBAB AMP manager. **CNIC concurs.**

Enclosure (1)

## Commander, Navy Installation Command (cont'd)

Control Number	Finding	Cited Code	Work Complete	Comments
JAB-FP-150202-001	1. Alarm Cr - fire sprinkler located within 3 ft of ceiling fan	?	N/A	Control Number JAB-FP-150202-001, 002, 003, and 005 relate to a ceiling fan that sprinklers are located within 3 feet of the ceiling fan. The subject bedroom houses were constructed in 1951 with sprinkler systems and transferred later as existing fixtures to MANSC. All sprinkler systems and fixtures were installed at time of acquisition and no major renovations have been completed on the subject houses since acquired.
JAB-FP-150202-002	3. Holes Cr - fire sprinkler in upstairs master bedroom is located within 3 ft of the ceiling fan	?	N/A	NFPA 13D Standards for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes (Version 2013) states under "Origin and Development of NFPA 13D, page 13D-2: "The 2007 Edition included new spacing and obstruction rules addressing sloped ceilings, ceiling prisms, ceiling fans, and kitchen exhausts. Finally, specific obstruction rules were added for residential sprinklers. Based upon a review of this summary it appears the specific guidelines on obstructions did not come into effect until after the homes were constructed.
JAB-FP-150202-003	4. Knob - fire extinguisher in garage show no objective evidence of monthly, annual or 6 year maintenance activities being performed	N/A	4/16/2015	NFPA 13D Standards for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes (Version 2013) states under "Origin and Development of NFPA 13D, page 13D-2: "The 2007 Edition included new spacing and obstruction rules addressing sloped ceilings, ceiling prisms, ceiling fans, and kitchen exhausts. Finally, specific obstruction rules were added for residential sprinklers. Based upon a review of this summary it appears the specific guidelines on obstructions did not come into effect until after the homes were constructed.
JAB-FP-150202-004	4. Knob - fire sprinkler located within 3 ft of ceiling fan	?	N/A	Based upon review, the sprinklers and fireextinguishing fans were installed prior to the code findings and therefore not applicable. We request that OIG remove the findings for Control Number 001, 002, 004, and 005 as the findings are not applicable to these units.
JAB-FP-150202-005	5. Barnacle - fire sprinkler in upstairs bedroom located within 3 ft of the ceiling fan	?	N/A	Letter was sent out
JAB-FP-150202-006	6. Barnacle - combustible materials being stored in the mechanical room	N/A	3/21/2015	Removed during the PMA
JAB-FP-150202-007	6. Barnacle - fire extinguisher in the garage show no objective evidence of monthly, annual or 6 year maintenance activities being performed	N/A	4/16/2015	

## Commander, Navy Installation Command (cont'd)

DOD IG FINDINGS - HUNT COMMENTS				
Control Number	Finding	Cited Code	Work Complete	Comments
JAB-FP-150202-007	There was evidence of damaged, suspect lead-based paint (LBP) on the exterior siding components at 89 Westover, Westover Estates	ACM/LBP/HAZMAT O& M Plan, Bolling Family Housing		As outlined in the Military Housing Privatized Initiative Environmental Baseline Survey dated December 2005, there are NO LBP components found in the 15 Westover GCQs in Area E South. The peeling paint identified will be addressed by the upcoming renovation this home is scheduled to undergo.
JAB-FP-150202-008	There was evidence of damaged, suspect lead-based paint (LBP) on the exterior siding components at 77 Westover, Westover Estates	ACM/LBP/HAZMAT O& M Plan, Bolling Family Housing		As outlined in the Military Housing Privatized Initiative Environmental Baseline Survey dated December 2005, there are NO LBP components found in the 15 Westover GCQs in Area E South. Any deterioration found will be handled as normal maintenance.

## United States Army Garrison Fort Belvoir



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR  
9820 FLAGLER ROAD, SUITE 213  
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO  
ATTENTION OF

IMBV-PW

MEMORANDUM THRU

Commander, Installation Management Command [REDACTED]

Assistant Chief of Staff for Installation Management [REDACTED]

Assistant Chief of Staff for Installation Management [REDACTED]

FOR Inspector General, [REDACTED]

SUBJECT: Continental United States Military Housing Inspections – National Capital Region (Project No. D2014-DT0TAD-0005)

1. Reference DOD IG Report, D2014-DT0TAD-0005, undated, SAB (enclosure 1)
2. USAG Fort Belvoir comments on the subject draft report, including comments from the privatized housing entities on findings related to housing which they own and operate, are at enclosure 2.
3. Point of contact is [REDACTED]

Encls

*For [Signature] Deputy*  
MICHELLE D. MITCHELL  
Colonel, AG  
Commanding

“LEADERS IN EXCELLENCE”

## United States Army Garrison Fort Belvoir (cont'd)

**USAG FORT BELVOIR RESPONSE TO  
DoD INSPECTOR GENERAL DRAFT REPORT  
PROJECT NUMBER: D2014-DT0TAD-0005**

**Continental United States Military Housing Inspections—National Capital Region**

***Recommendation A -- Electrical Systems***

*We recommend that USAG Fort Belvoir:*

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all electrical deficiencies identified in this report.*

**USAG FB Response to Recommendation A.1**

USAG Fort Belvoir does not concur with this recommendation due to the following:

- a. Several DoD IG findings associated with Privatized Housing cited non-applicable building codes and/or non-applicable DoD Facilities guidance as the basis of the findings. Comments received from the Privatized Housing Owner addressing these findings are included below.
- b. Some DoD IG findings associated with Unaccompanied Personnel Housing (UPH) that are erroneous in nature. Specific findings in question are addressed below.
  - 1) DoD IG Findings FBV-EL-15126-005 & FBV-EL-15126-011 are erroneous as the room designator tag does not impede access to the electrical panel access door and, in accordance with National Electrical Code (NEC) cited in the finding, does not in any way prohibit the immediate access and is *“Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.”*
  - 2) DoD IG Findings FBV-EL-15126-032 & FBV-EL-15126-033 are erroneous as the refrigerators cited are, in accordance with National Electrical Code (NEC) cited in the finding, installed and used in accordance with the manufacturer's written instructions. Specifically, the manufacturer recommends utilizing a dedicated electrical outlet (as seen in DoD IG photo EL-P1263887) and installation and use is in accordance with that recommendation and therefore in compliance with the NEC requirement. These DoD IG findings speak to a requirement for a dedicated branch circuit which, while not a requirement, is also satisfied.

## United States Army Garrison Fort Belvoir (cont'd)

2. *Create and execute a plan for performing ongoing inspection and maintenance of all housing units to attain compliance with applicable electrical codes and standards.*

### **USAG FB Response to Recommendation A.2**

USAG Fort Belvoir does not concur with this recommendation due to the following:

- a. Guidance received from Office of Assistant Secretary Army (Installations, Energy & Environment) prohibits Army personnel from conducting Health & Welfare inspections of Privatized Homes. ASAIE&E Policy Memorandum #1- Residential Communities Initiative (RCI) Policy for Major Decision Authority- paragraph 4a states: "Garrison Commanders shall not authorize, direct or permit Army representatives to initiate Health & Welfare inspections of privatized housing".
- b. Lack of available resources and projected future reductions in resources do not adequately provide for or allow additional oversight of housing facilities.

3. *Work with the private housing partner to ensure that an electrical inspection and maintenance plan is achieved.*

### **USAG FB Response to Recommendation A.3**

USAG Fort Belvoir concurs with this recommendation with the following exception:

- a. Several DoD IG findings associated with Privatized Housing cited non-applicable building codes and/or non-applicable DoD Facilities guidance as the basis of the findings. Comments received from the Privatized Housing Owner addressing these findings are included below.

### ***Recommendation B -- Fire Protection Systems***

*We recommend that USAG Fort Belvoir:*

1. *Conduct an effective root cause analysis and implement a corrective action plan for all fire protection deficiencies identified in this report.*

### **USAG FB Response to Recommendation B.1**

USAG Fort Belvoir does not concur with this recommendation due to the following:

- a. Several DoD IG findings associated with Privatized Housing cited non-applicable building codes and/or non-applicable DoD Facilities guidance as the basis of the findings. Comments received from the Privatized Housing Owner addressing these exceptions are included below.

## United States Army Garrison Fort Belvoir (cont'd)

- 2. Create and execute a plan for performing ongoing inspection and maintenance of all housing units to attain compliance with applicable fire protection codes and standards.*

### **USAG FB Response to Recommendation B.2**

USAG Fort Belvoir does not concur with this recommendation due to the following:

- a. Guidance received from Office of Assistant Secretary Army (Installations & Environment) prohibits Army personnel from conducting Health & Welfare inspections of Privatized Homes.
- b. Lack of available resources and projected future reductions in resources do not adequately provide for or allow additional oversight of housing facilities.

- 3. Work with the private housing partner to ensure that a fire protection inspection and maintenance plan is achieved.*

### **USAG FB Response to Recommendation B.3**

USAG Fort Belvoir concurs with this recommendation with the following exception:

- a. Several DoD IG findings associated with Privatized Housing cited non-applicable building codes and/or non-applicable DoD Facilities guidance as the basis of the findings. Comments received from the Privatized Housing Owner addressing these exceptions are included below.

## ***Recommendation C -- Environmental Health and Safety***

*We recommend that USAG Fort Belvoir:*

- 1. Conduct an effective root cause analysis and implement a corrective action plan for all environmental health and safety deficiencies identified in this report.*

### **USAG FB Response to Recommendation C.1**

USAG Fort Belvoir does not concur with this recommendation due to the following:

- a. Several DoD IG findings associated with Privatized Housing cited non-applicable building codes and/or non-applicable DoD Facilities guidance as the basis of the findings. Comments received from the Privatized Housing Owner addressing these exceptions are included below.

- 2. Improve heating, ventilation, and air conditioning maintenance in its barracks.*

### **USAG FB Response to Recommendation C.2**

## United States Army Garrison Fort Belvoir (cont'd)

USAG Fort Belvoir concurs with this recommendation. A project to upgrade HVAC in Permanent Party UPH was previously programmed and work is scheduled to commence during summer 2015.

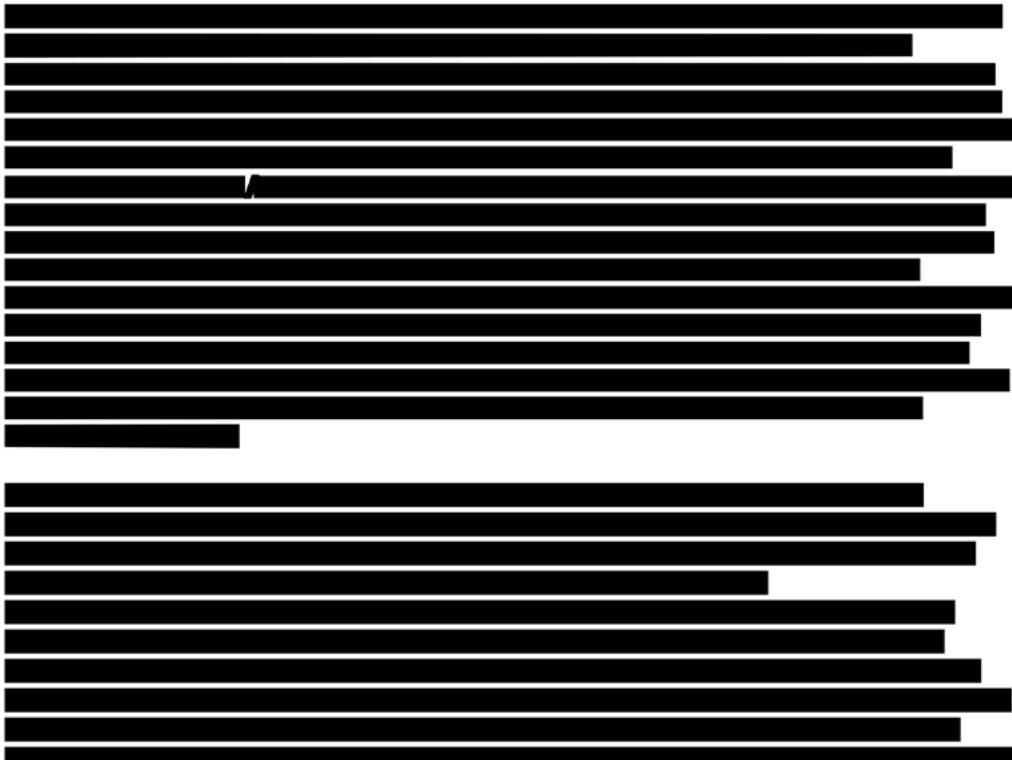
3. *Work with the private housing partner to abate all defective lead-based paint in accordance with its Operations and Maintenance Plan.*

### **USAG FB Response to Recommendation C.3**

USAG Fort Belvoir concurs with this recommendation. FBRC and its property manager follow an Army-approved Operation and Maintenance Plan for the monitoring and repair of lead-based paint.

#### **FBRC Responses to: Draft DOD IG CONUS Military Housing Inspections – NCR Report dated 19 May 2015**

PRIVILEGED AND CONFIDENTIAL



## United States Army Garrison Fort Belvoir (cont'd)





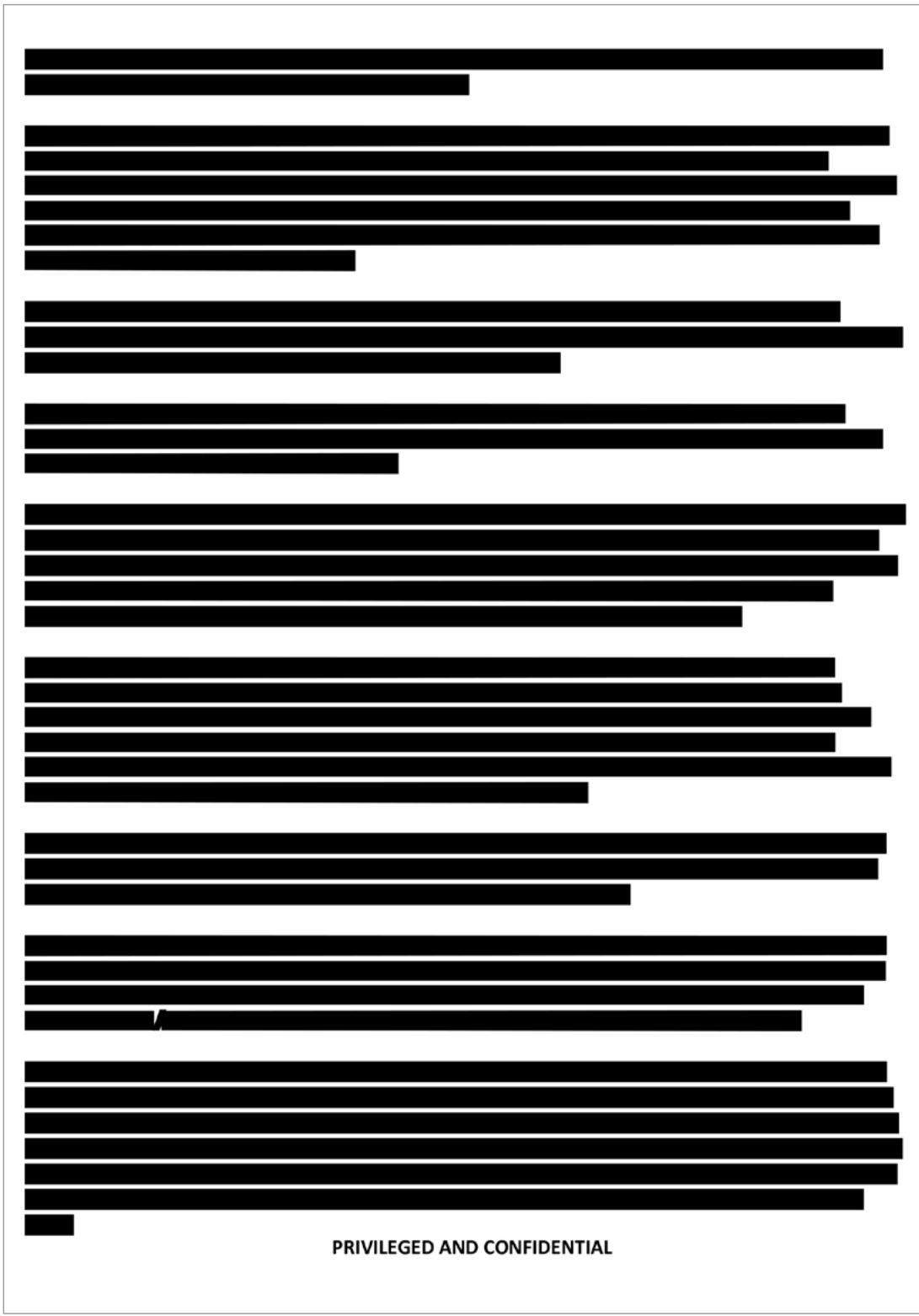









## United States Army Garrison Fort Belvoir (cont'd)



PRIVILEGED AND CONFIDENTIAL

# Acronyms and Abbreviations

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<b>AFI</b>	Air Force Instruction
<b>AMP</b>	Asbestos Management Program
<b>AR</b>	Army Regulation
<b>ASCE</b>	American Society of Civil Engineers
<b>AWMSG</b>	American Water Military Services Group
<b>BEQ</b>	Bachelor Enlisted Quarters
<b>BOQ</b>	Bachelor Officer Quarters
<b>CO</b>	Carbon Monoxide
<b>CONUS</b>	Continental United States
<b>CNIC</b>	Commander, Navy Installations Command
<b>DC</b>	District of Columbia
<b>DoD</b>	Department of Defense
<b>DoDI</b>	Department of Defense Instruction
<b>DPW</b>	Department of Public Works
<b>EMP</b>	Environmental Management Plan
<b>EPA</b>	Environmental Protection Agency
<b>FBRC</b>	Fort Belvoir Residential Communities
<b>GFCI</b>	Ground Fault Circuit Interrupter
<b>HVAC</b>	Heating, Ventilation, and Air Conditioning
<b>IBC</b>	International Building Code
<b>IMC</b>	International Mechanical Code
<b>IPM</b>	Integrated Pest Management
<b>ITG</b>	Interim Technical Guidance
<b>JBAB</b>	Joint Base Anacostia-Bolling
<b>LLC</b>	Limited Liability Corporation
<b>NAVFAC</b>	Naval Facilities Engineering Command
<b>NAVRAMP</b>	Navy Radon Assessment and Mitigation Program
<b>NEC</b>	National Electrical Code
<b>NFPA</b>	National Fire Protection Association
<b>O&amp;M</b>	Operations and Maintenance
<b>OIG</b>	Office of Inspector General
<b>OPNAVINST</b>	Chief of Naval Operations Instructions
<b>OUSD(AT&amp;L)</b>	Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics
<b>pCi/L</b>	Picocuries per Liter
<b>POC</b>	Point of Contact
<b>PPM</b>	Parts per Million

## Acronyms and Abbreviations (cont'd)

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<b>SME</b>	Subject Matter Expert
<b>TAD</b>	Technical Assessment Directorate
<b>UFC</b>	Unified Facilities Criteria
<b>US</b>	United States
<b>USAG</b>	United States Army Garrison
<b>WHS</b>	Washington Headquarters Services
<b>µg/l</b>	Micrograms per Liter

# Whistleblower Protection

## U.S. DEPARTMENT OF DEFENSE

*The Whistleblower Protection Enhancement Act of 2012 requires the Inspector General to designate a Whistleblower Protection Ombudsman to educate agency employees about prohibitions on retaliation, and rights and remedies against retaliation for protected disclosures. The designated ombudsman is the DoD Hotline Director. For more information on your rights and remedies against retaliation, visit [www.dodig.mil/programs/whistleblower](http://www.dodig.mil/programs/whistleblower).*

## For more information about DoD IG reports or activities, please contact us:

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[congressional@dodig.mil](mailto:congressional@dodig.mil); 703.604.8324

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[public.affairs@dodig.mil](mailto:public.affairs@dodig.mil); 703.604.8324

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DEPARTMENT OF DEFENSE | INSPECTOR GENERAL

4800 Mark Center Drive  
Alexandria, VA 22350-1500

[www.dodig.mil](http://www.dodig.mil)

Defense Hotline 1.800.424.9098

